



CITY OF
FOLSOM
DISTINCTIVE BY NATURE

PLANNING COMMISSION AGENDA
March 15, 2017
CITY COUNCIL CHAMBERS
6:30 p.m.
50 Natoma Street
Folsom, California 95630

CALL TO ORDER PLANNING COMMISSION: Chair Ross Jackson, Vice Chair John Arnaz; Commissioners:, Jennifer Lane, Thomas Scott, Justin Raithel, Aaron Ralls, and Kevin Mallory

Any documents produced by the City and distributed to the Planning Commission regarding any item on this agenda will be made available at the Community Development Counter at City Hall located at 50 Natoma Street, Folsom, California and at the table to the left as you enter the Council Chambers. The meeting is available to view via webcast on the City's website the day after the meeting.

PLEDGE OF ALLEGIANCE

CITIZEN COMMUNICATION: The Planning Commission welcomes and encourages participation in City Planning Commission meetings, and will allow up to five minutes for expression on a non-agenda item. Matters under the jurisdiction of the Commission, and not on the posted agenda, may be addressed by the general public; however, California law prohibits the Commission from taking action on any matter which is not on the posted agenda unless it is determined to be an emergency by the Commission.

MINUTES

The minutes of February 15, 2017 will be presented for approval.

CONTINUED ITEMS

- 1. PN 16-171, Parkway Apartments – Planned Development Permit and Consideration of Adoption of a Mitigated Negative Declaration – Continued from the February 1, 2017 Planning Commission**

A Public Hearing to consider a request from the TPC Housing for approval of a Planned Development Permit for development of a 72-unit affordable apartment community on a 10.1-acre site located at the southeast corner of the intersection of Blue Ravine Road and Oak Avenue Parkway. The zoning classification for the site is SP 93-3, while the General Plan land-use designation is MHD. An Initial Study and Mitigated Negative Declaration have been prepared in accordance with the requirements of the California Environmental Quality Act. **(Project Planner: Principal Planner, Steve Banks / Applicant: TPC Housing)**

NEW BUSINESS

2. PN 17-053, Renaming of Scott Road to East Bidwell Street within the Folsom Plan Area and Determination that the Project is Exempt from CEQA

A Public Hearing to consider a proposed street name change from Scott Road to East Bidwell Street within the Folsom Plan Area. The project is exempt from the California Environmental Quality Act by Section 15061 (B)(3) of the CEQA Guidelines. **(Project Planner: Associate Planner, Stephanie Henry / Applicant: City of Folsom)**

3. PN 17-051, Folsom Corporate Center – Development Agreement Amendment

A Public Hearing to consider a request from Evergreen Management Company for approval Development Agreement Amendment for the Folsom Corporate Center. The Folsom Corporate Center is a 124 acre mixed use project located on the south side of Iron Point Road (APN 072-312-023, 072-3120-001, 072-3120-002 & 072-3120-005). The proposed Development Agreement Amendment includes an extension of the Agreement and a clarification of the square footage to be developed on each lot. An Initial Study, Mitigated Negative Declaration, and Mitigation Monitoring Program were previously approved for the Folsom Corporate Center in accordance with the requirements of the California Environmental Quality Act (CEQA). **(Project Planner: Principal Planner, Steve Banks / Applicant: Evergreen Management Company)**

4. PN 15-308, Broadstone Estates – Vesting Tentative Subdivision Map

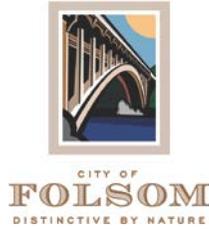
A Public Hearing to consider a request from Elliott Homes for the Broadstone Estates project located east of Placerville Road and south of Highway 50. The Broadstone Estates Project includes an 81 unit Vesting Tentative Subdivision Map for the development of 81 single family units on 37.2 acres, associated Design Guidelines, and an Inclusionary Housing Plan. In accordance with Section 15164 of the State CEQA Guidelines, an Addendum to the original Folsom Plan Area Specific Plan Environmental Impact Report has been prepared to document any changes to the Folsom Plan Area Specific Plan Environmental Impact Report that would be necessary as a result of the proposed project's development. The Addendum was approved by the Folsom City Council on June 28, 2016. **(Project Planner: Consultant Planner, Sherri Metzker / Applicant: Elliot Homes)**

PLANNING COMMISSION / PLANNING MANAGER REPORT

The next Planning Commission meeting is scheduled for **April 5, 2017**. Additional non-public hearing items may be added to the agenda; any such additions will be posted on the bulletin board in the foyer at City Hall at least 72 hours prior to the meeting. Persons having questions on any of these items can visit the Community Development Department during normal business hours (8:00 a.m. to 5:00 p.m.) at City Hall, 2nd Floor, 50 Natoma Street, Folsom, California, prior to the meeting. The phone number is 355-7222 and FAX number is 355-7274.

NOTICE REGARDING CHALLENGES TO DECISIONS

The appeal period for Planning Commission Action: Any appeal of a Planning Commission action must be filed, in writing with the City Clerk's Office no later than ten (10) days from the date of the action pursuant to Resolution No. 8081. Pursuant to all applicable laws and regulations, including without limitation, California Government Code Section 65009 and or California Public Resources Code Section 21177, if you wish to challenge in court any of the above decisions (regarding planning, zoning and/or environmental decisions), you may be limited to raising only those issues you or someone else raised at the public hearing(s) described in this notice/agenda, or in written correspondence delivered to the City at, or prior to, the public hearing



PLANNING COMMISSION MINUTES
February 15, 2017
CITY COUNCIL CHAMBERS
6:30 P.M.
50 Natoma Street
Folsom, CA 95630

CALL TO ORDER PLANNING COMMISSION: Chair Ross Jackson; Vice Chair John Arnaz; Commissioners: Jennifer Lane, Thomas Scott, Justin Raithel, Aaron Ralls, and Kevin Mallory

ABSENT: Jackson

CITIZEN COMMUNICATION: None

MINUTES: The minutes of February 1, 2017 were approved as submitted.

PRESENTATIONS - Preliminary Draft General Plan Workshop (Consultant: Chelsey Payne, Mintier Harnish)

A PRESENTATION ON THE PRELIMINARY DRAFT GENERAL PLAN WAS GIVEN BY CHELSEY PAYNE FROM MINTIER HARNISH.

Planning Commission/Planning Manager Report:

None

RESPECTFULLY SUBMITTED,

Amanda Palmer, SECRETARY

APPROVED:

Ross Jackson, CHAIRMAN

PLANNING COMMISSION STAFF REPORT

| | |
|----------------------------------|--|
| PROJECT TITLE | The Parkway Apartment Community |
| PROPOSAL | Request for approval of a Planned Development Permit for development of a 72-unit affordable apartment community and request for adoption of a Mitigated Negative Declaration and Mitigation Monitoring Program for the project |
| RECOMMENDED ACTION | Approve, based upon findings and subject to conditions |
| OWNER/APPLICANT | Pacific West Communities |
| LOCATION | The 10.1-acre project site is located at the southwest corner of the intersection of Blue Ravine Road and Oak Avenue Parkway |
| SITE CHARACTERISTICS | The 10.1-acre project site consists of an undeveloped parcel that is relatively flat and triangular in shape. Vegetation within the site is primarily non-native annual grassland, with inclusions of riparian vegetation associated with the intermittent drainage along the northern edge of the property, and a riparian wetland in the north-central portion of the property |
| GENERAL PLAN DESIGNATION | MHD (Multi-Family High Density) and OSC (Open Space) |
| ZONING | SP 93-3 (Parkway Specific Plan) with an underlying land use designation of RM-17 (Residential Multi-Family District) and OSC (Open Space and Conservation District) |
| ADJACENT LAND USES/ZONING | North: Blue Ravine Road with Oak Hills Church (C-1 PD) and Single-Family Residential Development (R-1-M) Beyond |

South: Cummings Family Park (OSC) with Creekside Drive Beyond

East: Oak Avenue Parkway with Single-Family Residential Development (SP 93-3) Beyond

West: Preserve at Blue Ravine Apartments (R-M PD) with Open Space Beyond

PREVIOUS ACTION

City Council approval of the Parkway Specific Plan (SP 93-3) on December 14, 1993 and City Council approval of a General Plan Amendment, Specific Plan Amendment, Tentative Parcel Map, Conditional Use Permit, and Planned Development Permit for the Terraces at the Parkway Apartment Community (PN 96-005) on March 18, 1997

FUTURE ACTION

Issuance of Grading and Building Permits

APPLICABLE CODES

FMC 12.16, Tree Preservation Ordinance
FMC 17.37, Specific Plan District
FMC 17.38, Planned Development District
FMC 17.57, Parking Requirements
FMC 17.59, Signs
Parkway Specific Plan (SP 93-3)

ENVIRONMENTAL REVIEW

An Initial Study and Mitigated Negative Declaration have been prepared for the project in accordance with the California Environmental Quality Act (CEQA)

ATTACHED REFERENCE MATERIAL

1. Vicinity Map
2. Preliminary Site Plan, dated June 1, 2016
3. Preliminary Grading and Drainage Plan, dated March 3, 2017
4. Preliminary Utility Plan, dated March 3, 2017
5. Preliminary Landscape and Irrigation Plan, dated June 1, 2016
6. Preliminary Access and Circulation Plan, dated March 3, 2017
7. Preliminary Building Elevations, dated June 1, 2016
8. Color Building Elevations and Renderings
9. Initial Study, Mitigated Negative Declaration, and Mitigation Monitoring Program
10. Site Photographs

PROJECT PLANNER

Steve Banks, Principal Planner

BACKGROUND

In 1993, the City Council approved development of the 612-acre, mixed-use Parkway project, including the adoption of the Parkway Specific Plan and Design Guidelines (SP 93-3). The Parkway Specific Plan, which established guidance and regulations, included development of 360-acres of residential development, 11.8-acres of community commercial uses, 6.4-acres of office uses, and 242-acres of open space including parkland. The Specific Plan was amended to relocate land uses within the Phase II portion of the project on January 17, 1995, followed a year later by City Council adoption of a Development Agreement on January 23, 1996 (Development Agreement has since expired). In 1998, the Parkway Specific Plan was amended again for the Phase II portion of the project by reducing the number of single-family units, decreasing the number of tot lots, while increasing park acreage.

On March 18, 1997, the City Council approved a General Plan Amendment, Specific Plan Amendment, Tentative Parcel Map, Conditional Use Permit, and Planned Development Permit for development of the 88-unit Terraces at the Parkway Senior Apartment Community (PN 96-005) on a 10.1-acre site located at the southwest corner of Blue Ravine Road and Oak Avenue Parkway. The aforementioned approvals modified the General Plan land use designation for a 3.5-acre portion of the project site from OSC (Open Space) to MHD (Multi-Family High Density) and altered the Specific Plan zoning designation for the same 3.5-acre portion of the site from OS/P (Open Space/Parks) to Residential Multi-Family (RM-17). The Tentative Parcel Map, Planned Development Permit, and Conditional Use Permit associated with the Terraces at the Parkway Senior Apartment Community expired on March 18, 1999, as a result no construction occurred and the site remained undeveloped.

The Parker Development Company, who was responsible for development of the Parkway Specific Plan Area, recognized that achieving the City's affordable housing goals and satisfying the City's regional housing obligations would require a significant degree of cooperation between the City and developers of residential housing. To that end, on June 12, 2001, the Parkway Development Company entered into an agreement with the City (Resolution No. 6569) to voluntarily restrict the use of a 10.1-acre parcel located at the southwest corner of the intersection of Blue Ravine Road and Oak Avenue Parkway to the construction of affordable housing dwelling units, including low income and very low income units.

APPLICANT'S PROPOSAL

The applicant, Pacific West Companies, is requesting approval of a Planned Development Permit for development and operation of a 72-unit affordable apartment community (Parkway Apartment Community) on a 10.1-acre site located within the Parkway Specific Plan Area at the southwest corner of the intersection of Blue Ravine Road and Oak Avenue Parkway. The proposed project, which includes development of five (5) three-story apartment buildings and one (1) single-story community building, features 18 one-bedroom units, 36 two-bedroom units, and 18 three-bedroom units. The individual apartment units range from 754 square feet (one-bedroom unit) to 1,276 square feet (three-bedroom unit) in size. In terms of building design, the proposed apartment project features three unique master plans with building elevations that reflect a fairly contemporary architectural style with many high-quality elements. In addition to the apartment buildings, the proposed project includes a common single-story recreational building featuring numerous recreational indoor and outdoor amenities (swimming pool, tot lot, fitness center, lounge, etc.).

Vehicle access to and from the project site is provided by two new driveways located on Blue Ravine Road and Oak Avenue Parkway respectively. The Blue Ravine Road project driveway, which is situated approximately 600 feet west of the intersection of Blue Ravine Road and Oak Avenue Parkway, is designed to accommodate right-turns-in and right-turns-out only. The Oak Avenue Parkway project driveway, which is located approximately 335 feet south of the intersection of Blue Ravine Road and Oak Avenue Parkway, is also designed to accommodate right-turns-in and right-turns-out only. Internal vehicle circulation is facilitated by a series of internal drive aisles that loop throughout the project site. Pedestrian circulation is accommodated by a combination of existing sidewalks, proposed sidewalks, new interior sidewalks/walkways, and bicycle/pedestrian paths and connections. Bicycle circulation is provided by existing bicycle lanes along the frontage of Blue Ravine Road and Oak Avenue Parkway and proposed pedestrian/bicycle paths and connections. The proposed project includes a total of 148 parking spaces including 80 covered garage parking spaces and 68 uncovered parking spaces. Additional site improvements include: underground utilities, curbs, gutters, a trash/recycling enclosure, site lighting, site landscaping, and a monument sign.

The Parkway Apartment Community, whose focus is providing high quality living opportunities for a variety of low income residents, will be managed by a professional management company (US Residential) with numerous years of experience operating and managing affordable rental housing communities throughout the country. In addition to the daily operation and maintenance of the apartment community (managed by an on-site property manager and staff), the property management company will be responsible for accepting applications and qualifying residents to live at the development. In terms of affordability, the project is proposed to be a 100% affordable housing community with 47 units available to Low Income households (approximately \$41,820/Year for family of four), 16 units available to Very Low Income households (approximately \$31,365/Year), and 8 units available to Extremely Low Income households (approximately \$20,910/Year). The project, which is proposed to be deed restricted for a period of 55 years, includes numerous financing mechanisms including Federal Low Income Tax Credits, conventional debt, local financing, and developer equity. It is important to note that the applicant will be seeking financial assistance from City to offset the cost of developing the proposed project. The request for financial assistance (in the form of an affordable housing agreement) is subject to review and approval by the City Council.

GENERAL PLAN AND ZONING CONSISTENCY

The General Plan land use designation for the project site is MHD (Multi-Family High Density) and OSC (Open Space), while the City-approved zoning designation is SP 93-3 (Parkway Specific Plan) with an underlying zoning of RM-17 (Residential Multi-Family District) and OSC (Open Space and Conservation District). The Specific Plan zoning designations correspond with the General Plan designation boundary lines. The proposed project is consistent with both the General Plan land use and Specific Plan zoning designations for the site, as multi-family apartments are identified as a permitted land use within the RM-17 zoning district. The proposed project meets or exceeds the development standards established for the Residential Multi-Family sites as established by the Folsom Municipal Code (FMC, Chapter 17.17, Residential Multi-Family Dwelling District) in terms of lot area, lot width, building coverage, building setbacks, building height, and parking. In addition, the proposed project will not conflict with any known applicable plans or policies by agencies with jurisdiction over the project.

As mentioned previously within this report, on March 18, 1997, the City Council approved a General Plan Amendment and Rezone for the subject property which created a 3.5-acre area (within the larger 10.1-acre site) with a General Plan Designation of MHD and a Specific Plan zoning designation of RM-17. The development boundary of the proposed project is generally and substantially consistent with the General Plan land use and Zoning Map boundary lines, with minor deviations occurring in the southeast corner of the project site. The minor deviations were required to avoid wetland impacts to an area adjacent to Blue Ravine Road, and also to provide emergency vehicle access to the project site via a project driveway on Oak Avenue Parkway. The proposed project, which includes development of a 3.5-acre portion of a larger 10.1-Acre parcel, is consistent with the General Plan land use designation and zoning designation for the site in that the amount of developable area (3.5-acres) is identical to that approved by the City Council in 1997.

As noted in the previous discussion, the General Plan land use designation for the 10.1-acre project site is MHD (Multi-Family High Density) and OSC (Open Space). The City of Folsom General Plan allows properties assigned with a MHD land use designation to be developed with a maximum density of 30-units per acre. As shown on the submitted site plan, the proposed project is being developed at a residential density of 7.1 dwelling units per acre (72 apartment units/10.1-acres). Based on the aforementioned information, staff has determined that the proposed project density is consistent with the residential density established for properties assigned with an MHD land use designation as it does not exceed the maximum residential density of 30 dwelling units per acre.

LAND USE COMPATIBILITY

The 10.1-acre project site is located within a geographic area that is dominated by a mixture of different types of residential land uses. The area to the north of the project site across Blue Ravine Road is comprised entirely of single-family residential development (Willow Creek Estates Subdivision) with the exception of Oak Hills Church. The area to the south of the project site includes open space, a public park, an office park, and a multi-family apartment community (The Falls at Willow Creek Apartments). The area to the east of the project site across Oak Avenue Parkway is composed of single family residential development (Parkway Subdivision) and open space. The area to the west of the project site contains a multi-family apartment community (Preserve at Blue Ravine Apartments) and open space areas.

In terms of compatibility with the nearby single-family and multi-family residential development, the proposed project has been designed to minimize impacts to nearby residents with respect to site design and architectural design. Regarding site design, the applicant has positioned the apartment buildings a significant distance away from the nearest single-family residences to the north (225 feet) and east (550 feet) to minimize potential visual impacts (size, scale, massing, etc.) to those residents. With regard to site design, the proposed apartment buildings are situated a moderate distance away (25-50 feet) from the adjacent apartment buildings to reduce potential visual impacts. In relation to architectural design, the applicant has created a contemporary design theme for the project that utilizes building materials and colors that are complimentary to the existing single-family homes and apartment buildings in the project area. It should be noted that a number of project-specific impacts (noise, traffic, parking, aesthetics, etc.) were analyzed and are addressed within separate sections of this report.

As noted above, the project site is located in close proximity to two major arterial roadways, Blue Ravine Road (four-lane roadway with 45 MPH speed limit) and Oak Avenue Parkway (six-lane roadway with 45 MPH speed limit). In general, high density residential projects are commonly

situated within transitional areas that are in close proximity to major transportation networks and commercial development. In this particular case, the proposed project is situated at the intersection of Blue Ravine Road and Oak Avenue Parkway, which provides opportunities to directly access and utilize the Folsom Stage Line bus system, and indirectly access the Sacramento Regional Transit light rail system. In relation to commercial development, the proposed project is located near many employment, educational, and shopping opportunities provided by development along the East Bidwell Street and Creekside Drive. Based on the aforementioned information, staff has determined that the proposed project is ideally situated to take advantage of the many opportunities afforded in the vicinity of the project site. In addition, staff has determined that the proposed project is compatible with the surrounding single-family and multi-family residential land uses in the project area.

PLANNED DEVELOPMENT PERMIT

The purpose of the Planned Development Permit process is to allow greater flexibility in the design of integrated developments than possible through strict application of land use regulations. The Planned Development Permit process is also designed to encourage creative and efficient uses of land. The applicant’s intent, in this particular case, is to provide a multi-family rental product that fits into a niche between the single-family, small-lot category and the multi-family condominium category. In reviewing the applicant’s request for approval of a Planned Development Permit, staff considered a variety of factors including existing/proposed development standards, traffic/access/circulation, parking requirements, noise impacts, aesthetic impacts, site lighting, site landscaping, trash/recycling, grading/drainage, and architecture/design.

Development Standards

The applicant’s intent with the subject application is to comply with the existing development standards established for the Parkway Specific Plan Area (SP 93-3) and the subject properties underlying land use designation of RM-17 (Residential Multi-Family District). The following table outlines the existing development standards for the Parkway Specific Plan Area and how those standards are being met by the Parkway Apartment Community project:

| The Parkway Apartments Development Standards Table | | | | | | | |
|---|-----------------|------------------|--------------------------|---------------------------|--------------------------|---------------------------|------------------------------|
| | Lot Area | Lot Width | Building Coverage | Front Yard Setback | Rear Yard Setback | Side Yard Setbacks | Building Height limit |
| Parkway RM-17 Standard | 2,500 s.f. | NA | PD | 20 feet | PD | PD | 50 feet |
| Proposed Project | 441,637 s.f. | 720 feet | 7% | 20 feet | 450 feet | 12/360 feet | 39 feet |

As shown on the development standards table above, the proposed project is consistent with the development standards established for the Parkway Specific Plan Area in terms of lot area, front yard setback, and building height. The standards for building coverage, rear yard setback, and side yard setbacks are established by the applicant through the Planned Development Permit process. Staff has determined that the proposed standards for building coverage, rear yard setback, and side yard setbacks are appropriate and consistent with other multi-family apartment projects within the City. As a result, staff has determined that the proposed project meets the intent, purposes, and standards set forth in the Parkway Specific Plan (SP 93-3), in the Specific Plan District (FMC Section 17.37) and in the Planned Development District (FMC Section 17.38).

Traffic/Access/Circulation

Existing Roadway Network:

Significant roads in the project vicinity include Blue Ravine Road and Oak Avenue Parkway. Blue Ravine Road, which generally runs in a southwest to northeast direction, is an arterial roadway that travels diagonally through the City from Folsom Boulevard to East Natoma Street. In the immediate vicinity of the project site, Blue Ravine Road is a four-lane road with a center left-turn lane, bike lanes, and a 45 MPH posted speed limit. Oak Avenue Parkway, which generally runs in a north to south direction, is an arterial roadway that travels through the City from Willow Creek Drive to Iron Point Road. In the immediate vicinity of the project site, Oak Avenue Parkway is a six-lane median-divided road with bike lanes and a 45 MPH posted speed limit.

Traffic Impacts:

The traffic, access, and circulation analysis associated with the proposed project is based on the results of a Traffic Impact Analysis that was originally prepared on September 6, 2016 and updated on February 15, 2017 by MRO Engineers. The updated Study was conducted to ensure that vehicle trips associated with schools in the project area (Blanche Sprentz Elementary School and Folsom Middle School) were captured. The traffic study analyzed traffic operations in the vicinity of the project site under five scenarios: Existing Conditions, Construction Year No Project Conditions, Construction Year Plus Project Conditions, Cumulative No Project Conditions, and Cumulative Plus Project Conditions. Potential impacts of the project were evaluated at five street intersections: Oak Avenue Parkway/Willow Creek Drive, Blue Ravine Road/Flower Drive, Blue Ravine Road/Oak Avenue Parkway, Blue Ravine Road/Parkway Drive, and Oak Avenue Parkway/Creekside Drive.

The proposed Parkway Apartment Community project is expected to generate a total of 37 vehicle-trips during the weekday AM peak hour (7 inbound and 30 outbound) and 45 during the weekday PM peak hour trips (29 inbound and 16 outbound). In addition, the proposed project is projected to generate a total of 480 daily vehicle trips. Based on the relatively low volume of vehicle trips associated with the proposed project, no change in level of service (LOS) is projected during the AM or PM peak hour at any of the five study intersections under Construction Year Plus Project Conditions. In addition, no change in level of service (LOS) is projected during the AM peak hour at any of the five study intersections under Cumulative Plus Project Conditions as a result of project-related vehicle trips. During the PM peak hour, the proposed project will result in small increases in delay at the five study intersections under Cumulative Plus Project Conditions, however; the project-related delay (1.7 seconds) is less than the City's significant threshold of five seconds.

Project Access and On-Site Circulation:

As shown on the submitted site plan (Attachment 2), vehicular access to and from the project site is provided by two new driveways located on Blue Ravine Road and Oak Avenue Parkway respectively. The Blue Ravine Road project driveway, which is situated approximately 600 feet west of the intersection of Blue Ravine Road and Oak Avenue Parkway, is designed to accommodate right-turns-in and right-turns-out only. The Oak Avenue Parkway project driveway, which is located approximately 335 feet south of the intersection of Blue Ravine Road and Oak Avenue Parkway, is also designed to accommodate right-turns-in and right-turns-out only. No inbound or outbound left-turn movements onto either Blue Ravine Road or Oak Avenue Parkway are proposed. Internal vehicle circulation is facilitated by a series of internal drive aisles that loop throughout the project site. Pedestrian circulation is accommodated by a combination of existing

sidewalks, proposed sidewalks, new interior sidewalks/walkways, and bicycle/pedestrian paths and connections. Bicycle circulation is provided by existing bicycle lanes along the frontage of Blue Ravine Road and Oak Avenue Parkway and proposed pedestrian/bicycle paths and connections.

The traffic study prepared for the proposed project analyzed the operation and configuration of the project access system in terms of driveway spacing, turn restrictions, right-turn deceleration lanes or tapers, sight distance, driveway traffic control, and minimum recommended throat depth. In terms of driveway spacing, the study determined adequate spacing is provided between the proposed project driveways and existing driveways located on Blue Ravine Road and Oak Avenue Parkway. With regard to turn restrictions, the study concluded that the Blue Ravine Road project driveway may pose a potential traffic safety risk in the future if left turn movements into and out of the project site are permitted. As a result, the study recommends that the Blue Ravine Road project driveway be restricted to right-turns only for entering and exiting vehicles. To reinforce the right-turn restriction for the Blue Ravine Road project driveway, the study recommends that a raised median be constructed in Blue Ravine Road. With respect to turn restrictions at the Oak Avenue Parkway project driveway, a raised landscape median is already constructed in the center of Oak Avenue Parkway, which prevents left-turn movements into and out of the project site.

The traffic study evaluated the need for right-turn deceleration lanes or tapers at the proposed driveway locations on Blue Ravine Road and Oak Avenue Parkway. The study determined that the proposed project would not generate a significant enough volume of vehicle trips to necessitate the requirement for right-turn deceleration lanes or tapers at either of the proposed project driveways. To ensure that drivers would be able to exit the project site safely, a stopping sight distance analysis was conducted at the two proposed driveway locations. The stopping sight distance analysis, which took into consideration vehicle speeds and line of sight, determined that adequate sight distance is provided to allow safe operation at both proposed project driveway locations. The traffic study evaluated the proposed traffic control measures (STOP-sign control on outbound approach at both project driveways) to determine whether this form of traffic control would be adequate to meet the needs of motorists traveling to and from the project site. Based on the low volume of project-related vehicle trips and the close proximity of the proposed project driveways to existing traffic signals, the study determined that signalization of the project driveways was not warranted. In addition, the study determined that outbound STOP-sign control was the appropriate form of traffic control at the two project driveways. Lastly, the traffic study determined that both project driveways included adequate throat depth to provide sufficient stacking distance for vehicles exiting the project site. To further ensure safe travel within and around the project site, staff recommends that the following measures be implemented (Condition No. 49):

- “STOP” signs and appropriate pavement markings shall be installed at the two project driveways located on Blue Ravine Road and Oak Avenue Parkway respectively.
- The two project driveways located on Blue Ravine Road and Oak Avenue Parkway respectively shall be restricted to right-turns, both inbound and outbound. To ensure the driveway turn restriction is effective at the Blue Ravine Road driveway location, a raised median shall be constructed on Blue Ravine Road connecting the existing median west of the project site with the existing median on the west leg of the Blue Ravine Road/Oak Avenue Parkway intersection.

- The intersection of Blue Ravine Road/Oak Avenue Parkway shall be modified (replacement of signage on traffic signal mast) to allow U-turns on the eastbound approach to Oak Avenue Parkway from Blue Ravine Road
- The Blue Ravine Road project driveway shall be designed so that existing vehicles are approximately level as they wait to exit the project site.
- The existing sidewalk located along the project's frontage of Blue Ravine Road shall be extended to the western project boundary. The final location and orientation of the sidewalk extension shall be to the satisfaction of the Community Development Department.
- Pedestrian sidewalks shall be added to both sides of the Blue Ravine Road project driveway to provide access from the project site to the future sidewalk located along the frontage of Blue Ravine Road to the satisfaction of the Community Development Department.

Traffic Safety Committee

The proposed project was reviewed by the Traffic Safety Committee at its October 27, 2016 meeting. At the aforementioned meeting, the Committee discussed a number of traffic, access, and circulation-related topics associated with the proposed project including pedestrian and bicycle circulation. In relation to pedestrian circulation, the Committee recommended that the existing sidewalk located along Blue Ravine Road be extended to the western project boundary (Condition No. 51). With regarding to pedestrian and bicycle circulation, the Committee was supportive of the applicant's proposal to provide two bicycle/pedestrian extensions from an existing trail that is located at the southwest corner of the project site (shown on Attachment 2). The committee did not express any concerns regarding vehicle access and circulation for the proposed project.

Parking

The applicant proposes to provide a total of 148 parking spaces including 80 covered garage parking spaces and 68 uncovered parking spaces. As currently designed, the proposed project provides parking at a ratio of 2.05 spaces per apartment unit. The Parkway Specific Plan requires 1.5 parking spaces per unit for multi-family structures and complex located within the RM-17 (Residential Multi-Family District) zoning district. Utilizing the aforementioned parking ratio, the proposed project includes more than adequate parking by providing 148 parking spaces whereas 108 parking spaces are required. It is worth noting that the parking requirements for multi-family developments within the Parkway Specific Plan are identical to the parking requirements for multi-family developments with the Folsom Municipal Code (Section 17.18.110 Parking).

Additionally, the Design Guidelines for Multi-Family Development (adopted by the City Council in 1998) require multi-family apartment projects to provide 1.5 parking spaces for one bedroom units, 1.75 parking spaces for two bedroom units, 2.0 parking spaces for three bedroom units, and .2 guest parking spaces for each unit within the development. Applying the parking recommendations of the Design Guidelines for Multi-Family Development, the proposed project also includes sufficient parking by providing 148 parking spaces whereas 140 parking spaces are recommended. Based on the aforementioned analysis, staff has determined that the proposed project meets the parking requirements recommended by the Design Guidelines for Multi-Family Development.

Noise

Based on the close proximity of the project site to Blue Ravine Road and Oak Avenue Parkway, acoustical measurements and modeling were prepared by RCH Group as part of the Initial Study and Mitigated Negative Declaration. The purpose of the noise analysis was to quantify existing noise levels associated with traffic on Blue Ravine Road and Oak Avenue Parkway, as well as noise levels associated with nearby residential, commercial, and public park/trail activities, and to compare those noise levels against the applicable City of Folsom noise standards for acceptable noise exposure at residential land uses. Noise sources associated with the proposed project, including on-site parking/circulation and mechanical equipment noise, were also evaluated as part of the noise analysis.

As described previously, the predominant existing noise sources in the vicinity of the project site are from vehicles traveling on Blue Ravine Road and Oak Avenue Parkway, as well as minor background noises from nearby commercial, residential, and public land uses. Persons and activities potentially sensitive to noise in the project vicinity include residents within the Preserve at Blue Ravine Apartments to the west of the project site, and residents within the Willow Creek Estates and Parkway Subdivisions to the north and east of the site. Potential noise impacts associated with the Parkway Apartment Community project can be categorized as those resulting from construction-related activities and those caused by operational activities. Construction-related noise would have a short-term effect, while operational noise would continue throughout the lifetime of the project.

Development of the 77,343-square-foot Parkway Apartment Community project would temporarily increase noise levels in the project vicinity during the construction period, which would take approximately 12-15 months. Construction activities, including site clearing, excavation, grading, building construction, and paving, would be considered an intermittent noise impact throughout the construction period of the project. The City's Noise Ordinance excludes construction activities from meeting the General Plan Noise Element standards, provided that all phases of construction are limited to the hours between 7:00 a.m. and 6:00 p.m. on weekdays, 8:00 a.m. and 5:00 p.m. on Saturdays. To ensure compliance with the City's Noise Control Ordinance and General Plan Noise Element, staff recommends that hours of construction operation be limited from 7:00 a.m. to 6:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on Saturdays with no construction permitted on Sundays or holidays. In addition, staff recommends that construction equipment be muffled and shrouded to minimize noise levels. Condition No. 53 is included to reflect these requirements.

The noise environment in the area of the project site is dominated by traffic noise generated by vehicles on Blue Ravine Road and Oak Avenue Parkway. Additional noise is also generated from nearby residential, commercial, and public land uses located to the east, west, and south of the project site. Traffic noise levels were measured with respect to the outdoor activity areas associated with the project and also for interior spaces within the proposed apartment buildings. The noise analysis determined that the future greatest exterior noise level in the outdoor activity areas (swimming pool area) would be 67 dBA, thus exceeding the 60 dBA noise level standard established by the City for residential developments. To address the exterior noise level impacts, staff recommends that the following measure be implemented (Condition No. 50):

- The owner/applicant shall construct a five-foot-tall solid masonry noise barrier around the northern, western, and eastern perimeter of the swimming pool area. The location, design, materials, and colors of the noise barrier shall be subject to review and approval by the Community Development Department.

Traffic noise levels were also calculated for the interior spaces within the proposed residential apartment buildings. The noise analysis determined that the exterior noise levels for buildings closest to Blue Ravine Road range from 66 to 67 dBA in the northern portion of the project site and from 56 to 59 dBA in the southern portion of the site furthest from Blue Ravine Road. Typical construction materials are expected to reduce these noise levels by approximately 25 dBA. Based on the projected exterior noise levels, typical construction materials would attenuate the interior level to less than 45 dBA at all building locations. As a result, no noise mitigation measures are recommended for the interior spaces within the proposed apartment buildings.

Operational noises generated by the proposed project include sounds associated with new vehicle trips, vehicles parking, and mechanical equipment associated with the apartment community. Based on the extremely low amount of project-generated vehicle trips, vehicle noise exposure (less than 3 dBA increase) would increase only slightly as compared to existing conditions in the project vicinity. There would also only be slight noise increase from activities occurring in the parking lot areas. To minimize operational noise impacts associated with the operation of the mechanical equipment, staff recommends that roof-mounted mechanical equipment not extend above the height of the parapet walls. In addition, staff recommends that ground-mounted mechanical equipment be shielded by landscaping or trellis-type features. Condition No. 52-3 is included to reflect these requirements.

Fencing/Gates

The applicant is proposing to install a six-foot-tall decorative metal view fencing around the entire perimeter of the developed portion of the project site in order to provide a safe environment for the residents of the apartment community. No vehicle gates are proposed at the driveway entrances on Blue Ravine Road and Oak Avenue Parkway so as to facilitate efficient movement of vehicles into and out of the project site. Three pedestrian openings are proposed in the view fencing located along the southern project boundary to accommodate access to and from the adjacent bicycle/pedestrian trail. Staff has determined that the design of the proposed fencing is generally complimentary to the architecture and design of the proposed apartment buildings. However, to further enhance the appearance of the perimeter fencing, staff recommends that decorative pilasters be added at each corner location at both of the driveway entrances and at all pedestrian opening locations. In addition, staff recommends that the final location, design, height, materials, and colors of the fencing and pilasters be subject to review and approval by the Community Development Department. Condition No. 63 is included to reflect this requirement.

Site Lighting

The applicant is proposing to use a combination of free-standing parking area lights, landscape and walkway lighting, and building-attached lights. The free-standing parking area lights, which are primarily located within the interior parking areas and adjacent to the clubhouse building, are 16 feet in height and feature a contemporary design. The landscape and walkway lights are short (40-inches-tall), ground-mounted fluorescent lights that provide illumination for the walkways and landscape areas throughout the project site. The building attached lighting includes decorative light

fixtures mounted along the front of the individual apartment buildings. To minimize potential lighting-related impacts, staff recommends that all free-standing parking area lights, landscape and walkway lights, and building attached lights be screened, shielded, and directed downward to minimize glare towards the surrounding properties. In addition, staff recommends that the final design of all exterior lighting be subject to review and approval by the Community Development Department. Condition No. 28 is included to reflect these requirements.

Trash/Recycling Enclosure

The proposed project includes three trash/recycling enclosures which are equally dispersed throughout the project site. The proposed six-foot-tall trash/recycling enclosures, which measure 20 feet in width by 10 feet in depth, include a design that features CMU split-face blocks, a CMU wall-cap, and a metal gate. The applicant is proposing to paint the trash-recycling enclosure an earth-tone color to match the colors utilized on the proposed apartment buildings. Staff recommends that the final location, orientation, design, materials, and colors of the trash/recycling enclosures is subject to review and approval by the Community Development Department. Condition No. 62 is included to reflect this requirement.

Signage

The proposed project includes two monument signs that will be located within landscape areas adjacent to the project driveways on Blue Ravine Road and Oak Avenue Parkway respectively. The proposed monument signs, which are double-sided, are approximately 6 feet in height by 6 feet in width with an approximate sign area of 24 square feet. The proposed signs will include copy that features the formal name established for the Parkway Apartment Community. The design of the monument signs includes a natural stone base and decorative trim cap elements. The applicant is proposing to match color scheme of the apartment buildings with respect to colors for the proposed monument signs. Staff has also determined that the proposed monument signs utilize a design, materials, and colors that are complimentary to the design of the proposed buildings.

Schools

Representatives of the Folsom-Cordova Unified School District have concluded the proposed project is anticipated to generate 23 (K-12) students. Students from the proposed project will attend Blanche Sprentz Elementary School, Folsom Middle School, and Vista del Lago High School. The school district has indicated that the aforementioned schools may accommodate the students generated from this project. The following table details the student generation associated with the proposed project:

| | Single-Family Units | Pupils Generated | Multi-Family Units | Pupils Generated | Total Pupils Generated |
|---------------|----------------------------|-------------------------|---------------------------|-------------------------|-------------------------------|
| K-5 | NA | NA | 72 | 10 | 10 |
| 6-8 | NA | NA | 72 | 5 | 5 |
| 9-12 | NA | NA | 72 | 6 | 6 |
| SPED | NA | NA | 72 | 2 | 2 |
| Totals | NA | NA | | 23 | 23 |

The Folsom-Cordova Unified School District has indicated that all of the aforementioned schools are currently operating at or near capacity and that there may not be excess capacity at current

school sites. It is the policy of the District to balance class loads at each school. If an individual grade level is full, then the student or pupil may be bused to another school within the district. It is important to note that the District also reviews attendance boundaries on a yearly basis and makes adjustments as necessary.

The State of California (Government Code Section 65995) establishes the maximum fee that a school district can impose on residential development or construction to address the impacts associated with an increase in student population. In the specific case of the Folsom Cordova Unified School District, the established residential impact fee is approximately \$6.50 per square foot. Based on the aforementioned impact fee, the District expects to generate approximately \$502,729 (\$6,982 per unit) in revenue from the proposed project. Under state law, the City is prohibited from denying or refusing to approve a residential subdivision based on the adequacy of the existing school facilities.

Existing and Proposed Landscaping

The 10.1-acre project site consists of an undeveloped parcel that is relatively flat and triangular in shape. A 6.6-acre portion of the project site, which contains a riparian wetland featuring a variety of plant species (Annual Hairgrass, Arroyo Willow, Baltic Rush, Cattail, Dallisgrass, Gooding's Willow, Himalayan Blackberry, and South American Vervain), is proposed to remain undeveloped in its natural state. The remaining 3.5-acre portion of the project site is proposed to be developed with apartment buildings, site improvements, and landscape features.

Proposed landscaping includes a variety of trees, shrubs, and groundcover. The proposed shade and accent trees include Autumn Blaze, California Valley Oak, Chinese Pistache, Crape Myrtle, Interior Live Oak, Japanese Sawleaf, London Plane, and Marina Strawberry. Proposed shrubs and groundcover will feature drought-tolerant plant materials consisting of Autumn Sage, Crimson Rock Rose, Deer Grass, Dwarf Fountain Grass, Dwarf Lily, Germander, Heavenly Bamboo, India Hawthorne, Society Garlic, and White Flower Carpet Rose. The preliminary landscape plan meets the City shade requirement (40%) by providing 40% shade in the parking lot area within fifteen (15) years.

The proposed project is subject to the Humbug-Willow Creek Design Guidelines, which includes recommendations specific to landscape design, concepts, and materials. With respect to the proposed project, the Guidelines recommend that a 20-foot-wide transitional landscape buffer be provided along the southern project boundary to create a natural and visual transition between the developed area and the open space. The applicant has provided a buffer area along the southern project boundary that ranges from 20 to 35 feet in width and includes a bicycle and pedestrian trail. In addition, the applicant is proposing to leave a majority of the project site (6.6-acres) in its natural state with native features and vegetation. Based on the aforementioned factors, staff has determined that the proposed project meets the intent of the Humbug-Willow Creek Design Guidelines relative to landscape design. Staff recommends that the final landscape plan be subject to review and approval by the Community Development Department. Condition No. 35 is included to reflect this requirement.

As described above, a significant portion of the project site will remain in its natural undisturbed state. In an effort to blend the proposed landscape materials with the natural vegetation located within the open space areas on the project site, staff recommends that a transitional landscape area be created adjacent to the project's frontage with Blue Ravine Road and Oak Avenue Parkway. In

addition, staff recommends that the final location, design, and plant materials associated with the transitional landscape area be subject to review and approval by the Community Development Department. Condition No. 36 is included to reflect this requirement.

The concepts of hydro-zoning, or using materials that are compatible in their water use requirements together within the same irrigation zones, are to be applied with all planting and irrigation design. All proposed landscape areas will have automatically controlled irrigation systems that incorporate the use of spray, subsurface in-line emitters, and other high efficiency drip-type systems. All irrigation watering will be required to comply with the water conservation requirements established within the Folsom Municipal Code (FMC, Chapter 13.26 Water Conservation) and shall comply with all state water conservation regulations including the Governor's declarations and restrictions pertaining to water conservation and outdoor landscaping.

Tree Preservation

The City of Folsom Tree Preservation Ordinance (Folsom Municipal Code Chapter 12.16) regulates both the removal of protected trees and the encroachment of construction activities within their drip lines. Protected trees include native oak trees with a trunk diameter of 6 inches or greater, or multiple-trunked oak trees with an aggregate trunk diameter of 20 inches. A total of two (2) oak trees (Interior Live Oak and Valley Oak) located on the project site meet the criteria to be protected under the City of Folsom Tree Ordinance and both of these trees are located within the open space area and will be preserved. There are a total of twenty-seven (27) other trees located in and around the proposed 3.5-acre development area including Cottonwood, Black Willow, Arroyo Willow, and Sandbar Willow. Thirteen (13) of the aforementioned trees are located within the central portion of the project site and will need to be removed. The remaining fourteen (14) trees are proposed to be preserved although some may need to be pruned to regain their health.

Grading and Drainage

The subject property is relatively flat and would involve grading on the western portion of the project site to provide building pads (finished pad grade of 340 to 341 feet) for the proposed apartment buildings and parking lot areas. No grading activity is proposed within Humbug Creek or on the south side of Humbug Creek within the open space areas. Development of the project site is anticipated to require moderate movement of soils (including over-excavation, filling, and leveling) and the compaction of said materials. The applicant will be required to provide a complete geotechnical report before the design of interior roads, parking lot areas, and building foundations are finalized. Condition No. 12 is included to reflect this requirement.

A preliminary geotechnical investigation was prepared for the proposed project to evaluate existing geotechnical and seismic conditions at the project site as they relate to the design and construction of proposed structures. Subsurface information obtained indicates that the site is predominately underlain by relatively loose to medium dense tailings (from previous mining activities) overlying moderately hard bedrock to the maximum depth of the deepest exploration. Although the project site is not currently mapped for potential liquefaction hazard, previous geotechnical investigations have indicated that relatively large settlements might occur due to earthquake induced liquefaction of the "loose" tailings below the groundwater table. To address these potential concerns, a condition of approval has been included (Condition No. 13) that requires the owner/applicant to over excavate the project site, remove loose soils and slickens soils, and to place a non-liquefied layer that results in more uniform ground surface settlement.

Public storm drainage facilities are provided to accommodate runoff for the surrounding residential land uses, but no infrastructure currently exists within the project site itself. The nearest storm drainage infrastructure is located adjacent to the site along Blue Ravine Road, within the public right-of-way. Staff recommends the storm drain improvement plans provide for “Best Management Practices” that meet the requirements of the water quality standards of the City’s National Pollutant Discharge Elimination System Permit issued by the State Regional Water Quality Control Board. Condition No. 30 is included to reflect this requirement.

Biological Resources

The 10.1-acre project site, which is situated on an undeveloped rectangular parcel, features a creek (Humbug Creek) that runs through the southern portion of the site. Vegetation within the site is primarily non-native annual grassland, with inclusions of riparian vegetation associated with the intermittent drainage along the northern edge of the property, and a riparian wetland in the north-central portion of the property. The regulatory framework that is relevant to the California Environment Quality Act (CEQA) review process for this project include; Federal Endangered Species Act, Migratory Bird Treaty Act, California Endangered Species Act, California Department of Fish and Game Species of Concern, California Native Plant Society, State Jurisdiction, Jurisdictional Water of the United States, and CEQA Significance Criteria. The evaluation of biological resources and the potential environmental effects of implementing the proposed project are based on a Biological Resource Assessment that was prepared by ECORP Consulting.

The Biological Resource Assessment determined that riparian habitats, sensitive natural communities, protected habitats, and potential waters of the United States occur on the project site. In terms of habitat, the Assessment determined that the proposed project could potentially adversely impact six special-status bird species including Cooper’s hawk, Oak titmouse, White-tailed kite, Fox Sparrow, Yellow-billed magpie, and Nuttall’s woodpecker. In addition, one special-status reptile could be impacted during construction, the northwestern pond turtle. To minimize potential impacts to special-status nesting birds and special-status reptiles, staff recommends that the following measures be implemented (Condition No. 37 and 38):

- The owner/applicant shall conduct a preconstruction nesting bird survey of all suitable habitat within 14 days prior to the commencement of construction during the nesting season (February 1st through August 31st). If active nests are found, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. No further measures are necessary once the young are independent of the nest. Pre-construction nesting surveys are not required for construction activity outside the nesting season.
- The owner/applicant shall retain a wildlife biologist to conduct a preconstruction survey for northwestern pond turtles no more than 48 hours before the start of construction. The wildlife biologist will look for adult pond turtles, in addition to nests containing pond turtle hatchlings and eggs. If a western pond turtle is located in the construction area, the biologist will move the turtle to a suitable aquatic site outside the construction area. If an active pond turtle nest containing either pond turtle hatchlings or eggs is found, the City will consult the CDFW to determine and implement appropriate avoidance measures, which may include a

“no-disturbance” buffer around the nest site until the hatchlings have moved to a nearby aquatic site.

The proposed project would permanently impact (through fill) 0.489-acre of Waters of the U.S., consisting of 0.454 acre of riparian wetland and 0.035 acre of seasonal wetland swale. The project applicant is requesting authorization from the United States Army Corps of Engineers under Nationwide Permit (NWP) No. 29 to permanently impact Waters of the United States. In addition, the owner/applicant is required to obtain a Water Quality Certification from the Central Valley Regional Water Quality Control Board (RWQCB). Furthermore, impacts to riparian vegetation must be authorized through a Notification of Lake or Streambed Alteration for the proposed impacts to CDFW jurisdictional features. The project applicant is in the process of preparing applications for both the Water Quality Certification and Notification of Lake or Streambed Alteration. The proposed project cannot be constructed without the approval of the permits described above. These permits require avoidance, minimization, and compensatory mitigation measures to mitigate for the loss of Waters of the U.S., Waters of the State, and impacts to sensitive riparian vegetation. To minimize potential impacts to sensitive habit associated with the aforementioned water features, staff recommends that the following measure be implemented (Condition No. 39):

- Prior to initiation of construction activities that would impact jurisdictional wetlands, the owner/applicant shall obtain permits pertaining to Section 404 and 401 of the Federal Clean Water Act and Section 1600 of the California Fish and Game Code. The owner/project applicant shall provide evidence that said permits have been obtained, or that the permit is not required, subject to Community Development Department review and approval of any grading or improvement plans.

Architecture and Design

The proposed project includes development of a 72-unit multi-family apartment community located on a 10.1-acre site within the Parkway Specific Plan Area. The proposed project, which includes development of five (5) three-story apartment buildings and one (1) single-story community building, features 18 one-bedroom units, 36 two-bedroom units, and 18 three-bedroom units. The individual apartment units range from 754 square feet (one-bedroom unit) to 1,276 square feet (three-bedroom unit) in size. The design of the proposed apartment buildings reflects a fairly contemporary architectural style with many high-quality elements including varied roof elements, dormers, highly articulated facades, recessed and exposed balconies, and multiple decorative enhancements. Proposed building materials include stucco siding, horizontal lap siding, board and batten siding, shake siding, stone veneer, wood eaves, wood rafters, wood window and door trim, decorative metal mailing, and composition shingle roof tiles. Primary colors are generally lighter earth tones with more colorful trim and accent colors.

The project is subject to the Parkway Specific Plan Design Guidelines, the City’s Design Guidelines for Multi-Family Development, and the Humbug-Willow Creek Design Guidelines. The Design Guidelines are intended to establish and reinforce the neighborhood character of the Parkway Subdivision through the use of quality design, materials, and colors. The Design Guidelines include a variety of recommendations for residential land uses including:

- The design of multi-family residential development shall avoid long, unbroken building faces and make offsets an integral part of the design.

- Articulate the facades visible from the Parkway and the public right-of-way of buildings greater than 50 feet in length with projections and/or reveals in order to create a varying architectural form.
- Strong variations of traditional architecture, massing, and form which create texture and shadow should be a major consideration.
- Openings in buildings should be accentuated architecturally through indentation, framing, and roof variations.
- Pitched roofs are highly desirable and recommended over flat roofs.
- Buildings should be articulated with balconies, dormers, gables, porches, varied setbacks, and staggered roof planes to break up the visual massing of building facades.
- Natural materials such as stone, masonry, wood, and patterned concrete should be used as building materials.
- Finish colors of general wall areas should be of natural earthtones or variations of these tones so as to blend in with the natural landscape. Limited accent colors of compatible schemes may be used for trim, window areas, balconies, and doors.

In reviewing the architecture and design of the proposed apartment buildings, City staff determined that the applicant incorporated many of the essential design elements required by the Parkway Specific Plan Design Guidelines, the Design Guidelines for Multi-Family Development, and the Humbug-Willow Creek Design Guidelines including highly articulated facades on each of the apartment buildings, varied roof design elements, enhanced window and door trim, recessed and exposed balconies, and multiple decorative enhancements. As recommended by the Design Guidelines, the primary colors are generally earth tone in nature and feature various shades of beige and tan. The supporting trim and accent colors offer slightly more vibrant colors such as white, almond, and topaz. Proposed roof tile colors, which have been designed to complement the building colors, feature charcoal blend. In addition, the proposed apartment buildings utilize a variety of natural building materials as suggested by the Design Guidelines including stucco siding, lap siding, board and batten siding, shake siding, stone veneer accents, wood window and door trim, wood rafters, wood eaves, metal railing, and composition shingle roof tiles. Staff forwards the following design recommendations to the Commission for consideration:

1. This approval is for five (5) individual apartment buildings and one (1) community recreation building associated with the Parkway Apartment Community project. The applicant shall submit building plans that comply with this approval, the attached building elevations dated July 30, 2016.
2. The design, materials, and colors of the proposed Parkway Apartment Community buildings shall be consistent with the submitted building elevations, color renderings, materials samples, and color scheme to the satisfaction of the Community Development Department.

3. Roof-mounted mechanical equipment, including satellite dish antennas, shall not extend above the height of the parapet walls. Ground-mounted mechanical equipment shall be shielded by landscaping or trellis type features.
4. Utility equipment such as transformers, electric and gas meters, electrical panels, and junction boxes shall be screened by walls and or landscaping.
5. Brick pavers, stamped colored asphalt, or another type of colored masonry material (ADA compliant) shall be used to designate pedestrian crosswalks on the project site, in addition to where pedestrian paths cross drive aisles, and shall be incorporated as a design feature at the driveway entrances.
6. The final design of the building-attached light fixtures shall be subject to review and approval by the Community Development Department to ensure architectural consistency with the apartment buildings.
7. The final design of the carport structures shall be subject to review and approval by the Community Development Department to ensure architectural consistency with the apartment buildings.
8. The final color scheme for the apartment buildings and community recreation building shall be subject to review and approval by the Community Development Department.

These recommendations are included in the conditions of approval presented for consideration by the Planning Commission (Condition No. 52).

In evaluating architecture and design of the proposed project, staff also took into consideration the compatibility of the proposed project relative to the surrounding single-family and multi-family residential and commercial development. The existing single-family residential development, located to the north and east of the project site, consists of a combination of modest, one and two story homes with contemporary "California" design features. The multi-family apartment development located to the west of the project, which includes numerous three-story apartment buildings, features a contemporary design with natural building materials and earth tone colors. In reviewing the submitted building elevations, color renderings, and color and materials board, staff has determined that the design, materials, and colors of the proposed apartment buildings is similar to and compatible with the surrounding single-family and multi-family residential development.

ENERGY AND WATER CONSERVATION

To reduce impacts in terms of energy and water consumption, the proposed project is required to meet the 2014 Title 24 Building Envelope Energy Efficiency Standards. The project will be allowed to achieve this performance standard through a combination of measures to reduce energy use for heating, cooling, water heating and ventilation. Because energy use for each different system type (i.e., heating, cooling, water heating, and ventilation) as well as appliances is defined, this method will also easily allow for application of individual measures aimed at reducing the energy use of these devices in a prescriptive manner.

In an effort to address water conservation, the proposed project includes a number of measures aimed at reducing on-site water usage. As discussed within the Landscape section of this staff report, the proposed project has been designed to achieve an overall water efficient landscape rating utilizing primarily low water use plant materials. The concepts of utilizing plant materials that are compatible in their water use requirements together within the same irrigation zones, are to be applied with all planting and irrigation design. In addition, all proposed landscape areas will have automatically controlled irrigation systems that incorporate the use of spray, subsurface in-line emitters, and other high efficiency drip-type systems. To further ensure water conservation is being achieved, the proposed project is required to comply with all State and local rules, regulations, Governor's Declarations, and restrictions including but not limited to: Executive Order B-29-15 issued by the Governor of California on April 1, 2015 relative to water usage and conservation, requirements relative to water usage and conservation established by the State Water Resources Control Board, and water usage and conservation requirements established within the Folsom Municipal Code, (Chapter 13.26 Water Conservation), or amended from time to time. Condition No 60 is included to reflect these requirements.

PUBLIC OUTREACH

In an effort to inform and educate neighbors and residents regarding the specific details of the proposed project, the applicant conducted two public outreach meetings. The first public outreach meeting occurred on January 23, 2017 and was attended by approximately 50 residents, while the second public outreach meeting took place on February 21, 2017 and was attended by approximately 25 residents. The aforementioned outreach meetings generated a significant amount of interest, with many residents voicing concern regarding the proposed apartment project, and others expressing their support. Listed below is a representative sample of the type of comments that were made regarding the proposed development:

- Concerns regarding affordable housing and its perceived impact to the surrounding areas
- Concern regarding potential increase in the crime in the project area
- Concern relative to potential impact to property values in the project area
- Concern regarding traffic, access, and circulation
- Concern regarding potential parking impacts
- Concern regarding potential noise and light impacts
- Concern regarding the site design of the proposed project
- Concern regarding the architecture and design of the proposed apartment buildings
- Concern regarding potential environmental impacts associated with the proposed project
- Concern regarding lack of notification and time to review project details

A majority of the concerns listed above have been addressed in detail within the context of various sections (traffic/access/circulation, noise, lighting, architecture/design, etc.) of this staff report. In relation to the concerns expressed about the general nature of affordable housing, representatives of the property management company attended the second public outreach meeting and provided residents with an overview with respect to the proposed operation and management of the apartment community. In addition, the property management representatives engaged in a fairly lengthy question and answer session with residents regarding affordable aspect of the proposed project. With respect to concerns expressed regarding a potential increase in crime, the Police Department has thoroughly evaluated the proposed project and does not have any significant reservations regarding potential increases in crime with development of the affordable apartments.

In terms of the proposed project's potential impact to property values in the project area, City staff researched an existing affordable apartment development (Granite City Apartments) on Sibley Street. The research, which was based on three years of historic sales information, indicated that the property values in the vicinity of the Granite City Apartments have increased at a rate similar to property values increases in the City as a whole.

With respect to traffic, access, and circulation, residents were most concerned with traffic safety issues associated with the left-turn movements into and out of the project site from a proposed driveway on Blue Ravine Road. In response to this concern, the applicant revised the project design to eliminate the aforementioned left turn movements to and from the Blue Ravine Road project drive. It is important to note that City staff (per the Traffic Impact Analysis) is also recommending that a raised median be constructed in the center median of Blue Ravine Road to physically restrict left turns movements to and from the Blue Ravine Road project driveway. In relation to parking, some residents expressed concern that the proposed project has insufficient on-site parking and that the overflow parking would impact adjacent properties. In response to this concern, the applicant has provided ten (10) additional on-site parking spaces, increasing the overall number of parking spaces from 139 to 148 parking spaces (2.05 parking spaces per unit). The revised on-site parking exceeds the parking requirements of the Parkway Specific Plan and the Design Guidelines for Multi-Family Development.

At and prior to the January 23, 2017 public outreach meeting, a number of residents expressed concern that they were not provided sufficient time to fully understand and evaluate the proposed project (Public Notices regarding the proposed project were originally mailed to all property owners located within 300 feet of the project site on December 19, 2016). In an effort to provide residents with additional time to review the proposed project and associated environmental documents, City staff extended the public review period for the Initial Study and Mitigated Negative Declaration from January 22, 2017 to February 15, 2017. In addition, staff rescheduled the project from the February 1, 2017 Planning Commission meeting to the March 15, 2017 Planning Commission meeting. Additionally, staff also provided public notices to the property manager (Preserve at Blue Ravine Apartments) of the adjacent apartment community to share with their residents regarding the proposed development.

ENVIRONMENTAL REVIEW

An environmental consultant prepared an Initial Study and Mitigated Negative Declaration (Attachment 9) for the project in accordance with the California Environmental Quality Act (CEQA) regulations and determined that with the proposed mitigations, the project will not have a significant effect on the environment. The Mitigated Negative Declaration has been prepared and noticed for public comment on the project, and mitigation measures have been included as Conditions of Approval. City staff received four comment letters from public agencies (Central Valley Regional Water Quality Control Board, Sacramento Metropolitan Utility District, the California Department of Fish and Wildlife, and the State Office of Planning and Research) and two letters from local residents regarding the Initial Study and Mitigated Negative Declaration. The aforementioned letters and responses are included within the Initial Study and Mitigated Negative Declaration documents attached to this staff report. To date, no other written comments have been received from the public during the Mitigated Negative Declaration public review period.

RECOMMENDATION/PLANNING COMMISSION ACTION

MOVE TO ADOPT THE MITIGATED NEGATIVE DECLARATION AND MITIGATION MONITORING AND REPORTING PROGRAM PREPARED FOR THE PARKWAY APARTMENT COMMUNITY PROJECT (PN 16-171) PER ATTACHMENT 9;

AND

MOVE TO APPROVE A PLANNED DEVELOPMENT PERMIT FOR DEVELOPMENT OF SEVENTY-TWO (72) MULTI-FAMILY APARTMENT UNITS AS ILLUSTRATED ON ATTACHMENTS 2 THROUGH 8 FOR THE PARKWAY APARTMENT COMMUNITY PROJECT WITH THE FOLLOWING FINDINGS AND CONDITIONS (NO. 1-66).

GENERAL FINDINGS

- A. NOTICE OF HEARING HAS BEEN GIVEN AT THE TIME AND IN THE MANNER REQUIRED BY STATE LAW AND CITY CODE.
- B. THE PROJECT IS CONSISTENT WITH THE GENERAL PLAN AND ZONING CODE OF THE CITY AS WELL AS THE PARKWAY SPECIFIC PLAN.

CEQA FINDINGS

- C. A MITIGATED NEGATIVE DECLARATION HAS BEEN PREPARED FOR THE PROJECT IN ACCORDANCE WITH CEQA.
- D. THE PLANNING COMMISSION HAS CONSIDERED THE PROPOSED MITIGATED NEGATIVE DECLARATION TOGETHER WITH ANY COMMENTS RECEIVED DURING THE PUBLIC REVIEW PROCESS BEFORE MAKING A DECISION REGARDING THE PROJECT.
- E. THE MITIGATED NEGATIVE DECLARATION REFLECTS THE INDEPENDENT JUDGMENT AND ANALYSIS OF THE CITY OF FOLSOM.
- F. THE MITIGATED NEGATIVE DECLARATION HAS DETERMINED THAT THE PROPOSED PROJECT WOULD NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT WITH THE REQUIRED MITIGATION MEASURES.
- G. ON THE BASIS OF THE WHOLE RECORD, THERE IS NO SUBSTANTIAL EVIDENCE THAT THE PROJECT WILL HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT WITH THE REQUIRED MITIGATION MEASURES.

PLANNED DEVELOPMENT PERMIT FINDINGS

- H. THE PROPOSED PROJECT COMPLIES WITH THE INTENT AND PURPOSES OF CHAPTER 17.38 (PLANNED DEVELOPMENT DISTRICT) OF THE FOLSOM MUNICIPAL CODE, OTHER APPLICABLE ORDINANCES OF THE CITY, AND THE GENERAL PLAN.

- I. THE PROPOSED PROJECT IS CONSISTENT WITH THE OBJECTIVES, POLICIES AND REQUIREMENTS OF THE DEVELOPMENT STANDARDS OF THE CITY.
- J. THE PHYSICAL, FUNCTIONAL AND VISUAL COMPATIBILITY BETWEEN THE PROPOSED PROJECT AND EXISTING AND FUTURE ADJACENT USES AND AREA CHARACTERISTICS IS ACCEPTABLE.
- K. THERE ARE AVAILABLE PUBLIC FACILITIES, INCLUDING BUT NOT LIMITED TO, WATER, SEWER AND DRAINAGE TO ALLOW FOR THE DEVELOPMENT OF THE PROJECT SITE IN A MANNER CONSISTENT WITH THIS PROPOSAL.
- L. THE PROPOSED PROJECT WILL NOT CAUSE UNACCEPTABLE VEHICULAR TRAFFIC LEVELS ON SURROUNDING ROADWAYS, AND THE PROPOSED PROJECT WILL PROVIDE ADEQUATE INTERNAL CIRCULATION, INCLUDING INGRESS AND EGRESS
- M. THE PROPOSED PROJECT WILL NOT BE DETRIMENTAL TO THE HEALTH, SAFETY AND GENERAL WELFARE OF THE PERSONS OR PROPERTY WITHIN THE VICINITY OF THE PROJECT SITE, AND THE CITY AS A WHOLE.
- N. ADEQUATE PROVISION IS MADE FOR THE FURNISHING OF SANITATION SERVICES AND EMERGENCY PUBLIC SAFETY SERVICES TO THE DEVELOPMENT.
- O. AS CONDITIONED, THE PROPOSED PROJECT WILL NOT CAUSE ADVERSE ENVIRONMENTAL IMPACTS WHICH HAVE NOT BEEN MITIGATED TO AN ACCEPTABLE LEVEL.

Submitted,



DAVID E. MILLER, AICP

Community Development Director

CONDITIONS

See attached tables of conditions for which the following legend applies.

| RESPONSIBLE DEPARTMENT | | WHEN REQUIRED | |
|--------------------------------|------------------------------------|----------------------|--|
| CD (P) (E) (B) (F) | Community Development | I | Prior to approval of Improvement Plans |
| | Department | M | Prior to approval of Final Map |
| | Planning Division | B | Prior to issuance of first Building Permit |
| | Engineering Division | O | Prior to approval of Occupancy Permit |
| | Building Division Fire Division | G | Prior to issuance of Grading Permit |
| PW | Public Works Department | DC | During construction |
| PR | Park and Recreation Department | OG | On-going requirement |
| PD | Police Department | | |
| EWR | Environmental/Water Resources | | |

**CONDITIONS OF APPROVAL FOR THE PARKWAY APARTMENT COMMUNITY PROJECT (PN 16-171)
 PLANNED DEVELOPMENT PERMIT
 SOUTHWEST CORNER OF THE INTERSECTION OF BLUE RAVINE ROAD AND OAK AVENUE PARKWAY**

| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|--|---------------|------------------------|
| 1. | <p>The applicant shall submit final site development plans to the Community Development Department that shall substantially conform to the exhibits referenced below:</p> <ul style="list-style-type: none"> • Preliminary Site Plan, dated June 1, 2016 • Preliminary Grading and Drainage Plan, dated March 3, 2017 • Preliminary Utility Plan, dated March 3, 2017 • Preliminary Landscape and Irrigation Plan, dated June 1, 2016 • Preliminary Access and Circulation Plan, dated March 3, 2017 • Preliminary Building Elevations, dated June 1, 2016 • Color Building Elevations and Renderings | B | CD (P)(E) |
| 2. | <p>The Planned Development Permit is approved for the development of a 72-unit multi-family apartment community (Parkway Apartment Community). Implementation of the project shall be consistent with the above-referenced items as modified by these conditions of approval.</p> <p>Building plans, and all civil engineering and landscape plans, shall be submitted to the Community Development Department for review and approval to ensure conformance with this approval and with relevant codes, policies, standards and other requirements of the City of Folsom.</p> | I, B | CD (P)(E)(B) |
| 3. | <p>The project approvals granted under this staff report (Planned Development Permit) shall remain in effect for two years from final date of approval (March 15, 2019). Failure to obtain a building permit within this time period, without the subsequent extension of this Planned Development Permit, shall result in the termination of this Planned Development.</p> | B | CD (P) |

**CONDITIONS OF APPROVAL FOR THE PARKWAY APARTMENT COMMUNITY PROJECT (PN 16-171)
PLANNED DEVELOPMENT PERMIT**

SOUTHWEST CORNER OF THE INTERSECTION OF BLUE RAVINE ROAD AND OAK AVENUE PARKWAY

| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|---|--------------------|---|---------------|-----------------------------------|
| 4. | | <p>The owner/applicant shall defend, indemnify, and hold harmless the City and its agents, officers and employees from any claim, action or proceeding against the City or its agents, officers or employees to attack, set aside, void, or annul any approval by the City or any of its agencies, departments, commissions, agents, officers, employees, or legislative body concerning the project. The City will promptly notify the owner/applicant of any such claim, action or proceeding, and will cooperate fully in the defense. The City may, within its unlimited discretion, participate in the defense of any such claim, action or proceeding if both of the following occur:</p> <ul style="list-style-type: none"> • The City bears its own attorney's fees and costs; and • The City defends the claim, action or proceeding in good faith | OG | CD (P)(E)(B) PW, PR, FD, PD |
| 5. | ✓ | <p>The owner/applicant shall not be required to pay or perform any settlement of such claim, action or proceeding unless the settlement is approved by the owner/applicant.</p> <p>The owner/applicant shall be required to participate in a mitigation monitoring and reporting program pursuant to City Council Resolution No. 2634 and Public Resources Code 21081.6. The mitigation monitoring and reporting measures identified in the Parkway Apartments Initial Study and Mitigated Negative Declaration prepared for this project have been incorporated into these conditions of approval in order to mitigate or avoid significant effects on the environment. These mitigation monitoring and reporting measures are identified with a check mark (✓) in the mitigation measure column.</p> | G, I | CD (P) |
| DEVELOPMENT COSTS AND FEE REQUIREMENTS | | | | |
| 6. | | The owner/applicant shall pay all applicable taxes, fees and charges for the project at the rate and amount in effect at the time such taxes, fees and charges become due and payable. | I, B | CD (P)(E) |
| 7. | | If applicable, the owner/applicant shall pay off any existing assessments against the property, or file necessary segregation request and pay applicable fees. | B | CD (E) |

CONDITIONS OF APPROVAL FOR THE PARKWAY APARTMENT COMMUNITY PROJECT (PN 16-171)

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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|-----|--------------------|---|---------------|------------------------|
| 8. | | <p>The City, at its sole discretion, may utilize the services of outside legal counsel to assist in the implementation of this project, including, but not limited to, drafting, reviewing and/or revising agreements and/or other documentation for the project. If the City utilizes the services of such outside legal counsel, the applicant shall reimburse the City for all outside legal fees and costs incurred by the City for such services. The applicant may be required, at the sole discretion of the City Attorney, to submit a deposit to the City for these services prior to initiation of the services. The applicant shall be responsible for reimbursement to the City for the services regardless of whether a deposit is required.</p> | I | CD (P)(E) |
| 9. | | <p>If the City utilizes the services of consultants to prepare special studies or provide specialized design review or inspection services for the project, the applicant shall reimburse the City for actual costs it incurs in utilizing these services, including administrative costs for City personnel. A deposit for these services shall be provided prior to initiating review of the Final Map, improvement plans, or beginning inspection, whichever is applicable.</p> | I, M, B | CD (P)(E) |
| 10. | | <p>This project shall be subject to all applicable City-wide development impact fees, unless exempt by previous agreement. This project shall be subject to all applicable City-wide development impact fees in effect at such time that a building permit is issued. These fees may include, but are not limited to, fees for fire protection, park facilities, park equipment, Humbug-Willow Creek Parkway, Light Rail, TSM, capital facilities and traffic impacts. The 90-day protest period for all fees, dedications, reservations or other exactions imposed on this project will begin on the date of final approval (March 15, 2017). The fees shall be calculated at the fee rate in effect at the time of building permit issuance.</p> | B | CD (P)(E), PW, PK |

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| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------------------------|--|---------------|------------------------|
| 11. | The owner/applicant agrees to pay to the Folsom-Cordova Unified School District the maximum fee authorized by law for the construction and/or reconstruction of school facilities. The applicable fee shall be the fee established by the School District that is in effect at the time of the issuance of a building permit. Specifically, the owner/applicant agrees to pay any and all fees and charges and comply with any and all dedications or other requirements authorized under Section 17620 of the Education Code; Chapter 4.7 (commencing with Section 65970) of the Government Code; and Sections 65995, 65995.5 and 65995.7 of the Government Code. | B | CD (P) |
| SITE DEVELOPMENT REQUIREMENTS | | | |
| 12. | Prior to the issuance of any grading and/or building permit, the owner/applicant shall have a geotechnical report prepared by an appropriately licensed engineer that includes an analysis of site suitability, proposed foundation design for all proposed structures, and roadway and pavement design. | G, B | CD (E) |

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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|-----|--------------------|--|---------------|------------------------|
| 13. | ✓ | <p>As identified in the geotechnical investigation prepared ACE Quality Control, Inc., the upper seven to ten feet of loose tailings materials existing in the construction area shall be over excavated. Those earth materials deemed suitable for re-use as engineered fill could be stockpiled.</p> <p>If the unsuitable materials are not removed, then special foundation systems should be designed to account for potential total and differential settlements according to the specifications described in geotechnical investigation prepared by ACE Quality Control, Inc.</p> <p>Areas where deeper loose, wet soils are removed as well as areas where trees have been or will be cleared, remedial grading will also be required to remove the loose soils and ensure the removal of the entire tree root systems. Any slickens soils that might be encountered are considered highly compressible and expansive and shall be completely removed from the construction areas.</p> <p>Once the construction areas have been cleared, any unsuitable soils over-excavated and any other excavations made, then subgrades that will receive engineered fill, that are to be left at existing grade, or that represent final subgrades achieved by excavation should be scarified to at least 8 inches. Suitability of soils exposed in the bottom of all subgrades shall be verified by a qualified inspector during site grading. Upon favorable review, exposed subgrades should be scarified and recompacted (inplace) an additional 8 inches and/or prior to placing engineered fill materials to planned rough pad grade.</p> <p>During excavation activities a relatively thick non-liquefied layer shall be placed above the potentially liquefiable soils to act as a bridging layer that redistributes stresses and therefore results in more uniform ground surface settlement, as well as decreasing the amount of settlement.</p> | G, B | CD (E) |

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| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|---|---------------|------------------------|
| 14. | Public and private improvements, including roadways, curbs, gutters, sidewalks, bicycle lanes and trails, streetlights, underground infrastructure and all other improvements shall be provided in accordance with the current edition of the City of Folsom <u>Standard Construction Specifications</u> and the <u>Design and Procedures Manual and Improvement Standards</u> . | I, B | CD (P)(E) |
| 15. | The owner/applicant shall submit water, sewer and drainage studies to the satisfaction of the Community Development Department and provide sanitary sewer, water and storm drainage improvements with corresponding easements, as necessary, in accordance with these studies and the current edition of the City of Folsom <u>Standard Construction Specifications</u> and the <u>Design and Procedures Manual and Improvement Standards</u> . | I | CD (E) |
| 16. | The improvement plans for the required public and private improvements, including but not limited to street and frontage improvements on Blue Ravine Road and Oak Avenue Parkway shall be reviewed and approved by the Community Development Department prior to issuance of the Building Permit. | B | CD (E) |
| 17. | Required public and private improvements, including but not limited to street and frontage improvements on Blue Ravine Road and Oak Avenue Parkway shall be completed prior to issuance of a Certificate of Occupancy. | O | CD (E) |
| 18. | Any reimbursement for public improvements constructed by the owner/applicant shall be in accordance with a formal reimbursement agreement entered into between the City and the owner/applicant prior to approval of the improvement plans. | I | CD (E) |
| 19. | Final lot and building configurations may be modified to allow for overland release of storm events greater than the capacity of the underground system. | B | CD (E) |
| 20. | The owner/applicant shall coordinate the planning, development and completion of this project with the various utility agencies (i.e., SMUD, PG&E, etc.). | I | CD (P)(E) |
| 21. | The owner/applicant shall be responsible for replacing any and all damaged or hazardous public sidewalk, curb and gutter, and/or bicycle trail facilities along the site frontage and/or boundaries, including pre-existing conditions and construction damage, to the satisfaction of the Community Development Department. | O | CD (E) |

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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|-----|--------------------|---|---------------|------------------------|
| 22. | | A Master Apartment Rental Lease Agreement shall be prepared by the owner/applicant and shall be subject to review and approval by the Community Development Department for compliance with this approval and with the <u>Folsom Municipal Code</u> and adopted policies, prior to the issuance of the first Building Permit. In addition, the Master Apartment Rental Lease Agreement shall comply with the conditions of approval for this project. | B | CD (P)(E) |
| 23. | | The owner/applicant shall prepare and implement a facility use regulation as part of the Master Apartment Rental Agreement that prohibits outdoor storage on porches/balconies to the satisfaction of the Community Development Department. Outdoor storage closets on porches will be permitted. | B, OG | CD (P) |
| 24. | | The owner/applicant shall disclose to the apartment renters in the Master Apartment Rental Agreement that the project is located in close proximity to existing and future bicycle/pedestrian trails that may generate noise impacts during various times, including but not limited to evening and nighttime hours. In addition, it shall be disclosed to apartment renters that the project site is located within close proximity to the Mather Airport flight path and that overflight noise may be present at various times. | B | CD (P) PK |

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| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|---|---------------|------------------------|
| 25. | <p>The proposed project shall include the following parking and vehicle restrictions (this condition shall be included in the Master Apartment Rental Agreement for this project):</p> <p>1) <u>Parking and Vehicle Restrictions</u></p> <p>a) <u>Parking Restrictions</u> - The purpose and intent of this Declaration is to restrict the areas where motor vehicles can be parked within the development.</p> <ul style="list-style-type: none"> • Residents shall only park motor vehicles in garages or in on-site parking spaces. <p>b) <u>Garage Restrictions</u> – The purpose and intent of this Declaration is to restrict the use of garages within the development.</p> <ul style="list-style-type: none"> • Garages shall remain available for the parking of motor vehicles and shall not be used for other purposes which would displace the parking of motor vehicles. • Garages shall not be used for workshops, hobby facilities, or storage areas which will prevent the parking of motor vehicles. <p>c) <u>Vehicle Type Restrictions</u> - The purpose and intent of this Declaration is to restrict the types of vehicles which can be parked within the development.</p> <ul style="list-style-type: none"> • <u>Permitted Vehicles</u> – Only motor vehicles registered and permitted to drive on public roadways by a government agency are permitted within the development. • <u>Recreational Vehicles</u> - No trailer, motor home, camper, boat, personal watercraft, all-terrain, or other similar recreational vehicle shall be parked, stored, or permitted to remain within the development. | B | CD (P,E) |

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| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|---|--|---------------|------------------------|
| 26. | <p>The owner/applicant shall form a Landscape Lighting Assessment District, a Community Services District, or a Property Management Company, which shall be responsible for maintenance of all private streets, maintenance of all common areas, maintenance of all on-site landscaping, maintenance of storm drainage facilities, maintenance of storm water detention/retention basins and association channels, maintenance of water quality ponds, maintenance of sanitary sewer improvements, and maintenance of any other on-site facilities throughout the life of the project to the satisfaction of the Community Development Department. Vegetation or plantings shall not be less than that depicted on the final landscape plan, unless tree removal is approved by the Community Development Department because the spacing between trees will be too close on center as they mature.</p> | I, B | CD (P)(E) |
| 27. | <p>For any improvements constructed on private property that are not under ownership or control of the owner/applicant, a right-of-entry, and if necessary, a permanent easement shall be obtained and provided to the City prior to issuance of a grading permit and/or approval of improvement plans.</p> | G, I | CD (E) |
| 28. | <p>Final exterior building and site lighting plans shall be submitted for review and approval by Community Development Department for location, height, aesthetics, level of illumination, glare and trespass prior to the issuance of any building permits. All lighting, including but not limited to free-standing parking area lights, landscape/walkway lights, and building-attached lights shall be designed to be screened, shielded, and directed downward onto the project site and away from adjacent properties and public rights-of-way. The final design of the building-attached lights shall be subject to review and approval by the Community Development Department. Lighting shall be equipped with a timer or photo condenser. In addition, pole-mounted parking lot lights shall utilize a low-intensity, energy efficient lighting method.</p> | I, B | CD (P) |
| STORM WATER POLLUTION/CLEAN WATER ACT REQUIREMENTS | | | |
| 29. | <p>During Construction, the owner/applicant shall be responsible for litter control and sweeping of all paved surfaces in accordance with City standards. All on-site storm drains shall be cleaned immediately before the commencement of the rainy season (October 15).</p> | G, I, B | CD (E) |

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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|-----|---------------------------|--|----------------------|-------------------------------|
| 30. | | The storm drain improvement plans shall provide for "Best Management Practices" that meet the requirements of the water quality standards of the City's National Pollutant Discharge Elimination System Permit issued by the State Regional Water Quality Control Board. | G, I, B, O | CD (E) |
| 31. | | Prior to issuance of a Grading Permit, the owner/applicant shall submit erosion control plans and other monitoring programs for the construction and operational phases of the proposed project for review and approval by the City. The plan shall include Best Management Practices (BMP) to minimize and control the level of pollutants in stormwater runoff, and in runoff released to off-site receiving waters. Specific techniques may be based on geotechnical reports or the Erosion and Sediment Control Handbook of the California Department of Conservation, and shall comply with current City standards. | G, I | CD (E) |
| 32. | | Prior to the approval of the final facilities design and the initiation of construction activities, the applicant shall submit an erosion control plan to the City for review and approval. The plan shall identify protective measures to be taken during excavation, temporary stockpiling, any reuse or disposal, and revegetation. Specific techniques may be based upon geotechnical reports, the <u>Erosion and Sediment Control Handbook</u> of the State of California Department of Conservation, and shall comply with all updated City standards. | G, I | CD (E) |

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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|-----|---------------------------|--|----------------------|-------------------------------|
| 33. | | <p>Prior to issuance of grading permits, the project applicant shall obtain coverage under the State Water SWRCB General Permit for Discharges of Storm Water Associated with Construction Activity (Order 2009-0009-DWQ), including preparation and submittal of a project-specific SWPPP at the time the Notice of Intent (NOI) is filed. The project applicant shall also prepare and submit any other necessary erosion and sediment control and engineering plans and specifications for pollution prevention and control to the City of Folsom.</p> <p>The SWPPP shall contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list BMPs the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP.</p> | G, I, B | CD (E) |

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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|-----|--------------------|--|---------------|------------------------|
| 34. | | <p>100 Year Floodplain Boundary The owner/applicant shall be required to include the existing 100-year floodplain boundary (flood hazard area) on all grading and/or improvement plans prior to approval of the grading and/or improvement plans by the City. For any portion of the proposed project that lies within the designated flood hazard area, no development shall be approved until appropriate measures are taken to remove the area from the flood zone. There measures including the following:</p> <ul style="list-style-type: none"> • A Completed application for a Conditional Letter of Map Revision (CLOMR) shall be submitted to the City for submission to the Federal Emergency Management Agency (FEMA). Prior to approval of the improvement plans by the City, the owner/applicant shall submit the approved CLOMR to the City. • The lowest finished floor elevation of all proposed structures shall be a minimum of two (2) feet above the 100-year floodplain elevation in accordance with the City Floodplain Ordinance. The owner/applicant shall provide for review and approval by the City, information delineating the 100-year floodplain elevation under the worst case of either the interim or the ultimate condition for the upstream watershed. The existing and proposed 100-year floodplain shall be shown on the grading and/or improvement plans. • An elevation certification shall be required prior to issuance of any building permit demonstrating compliance with the above requirement. • Within four (4) months following completion of grading operations, a completed application for a Letter of Map Revision (LOMR) shall be submitted by the owner/applicant to the City for submission to FEMA. The City shall have received the completed LOMR from FEMA prior to issuance of a certificate of occupancy on any structure. | G, I | CD (E), PW |

LANDSCAPE/TREE PRESERVATION REQUIREMENTS

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|-----|---|------|----------|
| 35. | Final landscape plans and specifications for the project shall be prepared by a registered landscape architect and approved by the City Arborist and City staff prior to the approval of improvement plans. Said plans shall include all landscape specifications and details. Landscaping of the parking areas for guest parking shall meet shade requirements as outlined in the <u>Folsom Municipal Code Chapter 17.57</u> . The landscape plans shall comply and implement water efficient requirements as adopted by the State of California (Assembly Bill 1881) until such time the City of Folsom adopts its own Water Efficient Landscape Ordinance. Shade and ornamental trees shall be maintained according to the most current American National Standards for Tree Care Operations (ANSI A-300) by qualified tree care professionals. Tree topping for height reduction, sign visibility, light clearance or any other purpose shall not be allowed. Specialty-style pruning, such as pollarding, shall be specified within the approved landscape plans and shall be implemented during a 5-year establishment and training period. | I | CD(P)(E) |
| 36. | A transitional landscape area shall be provided adjacent to the project's frontage with Blue Ravine Road and Oak Avenue Parkway to the satisfaction of the Community Development Department. The final location, design, and plant materials associated with the transitional landscape area shall be subject to review and approval by the Community Development Department. | G, I | CD (E) |

BIOLOGICAL RESOURCE REQUIREMENTS

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|-----|--|---|---|-----------|
| 37. | The owner/applicant shall conduct a preconstruction nesting bird survey of all suitable habitat within 14 days prior to the commencement of construction during the nesting season (February 1st through August 31st). If active nests are found, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. No further measures are necessary once the young are independent of the nest. Pre-construction nesting surveys are not required for construction activity outside the nesting season. | ✓ | G | CD (P)(E) |
|-----|--|---|---|-----------|

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|-----|---|---|------|----------|
| 38. | ✓ | <p>The owner/applicant shall retain a wildlife biologist to conduct a preconstruction survey for northwestern pond turtles no more than 48 hours before the start of construction. The wildlife biologist will look for adult pond turtles, in addition to nests containing pond turtle hatchlings and eggs. If a western pond turtle is located in the construction area, the biologist will move the turtle to a suitable aquatic site outside the construction area. If an active pond turtle nest containing either pond turtle hatchlings or eggs is found, the City will consult the CDFW to determine and implement appropriate avoidance measures, which may include a “no-disturbance” buffer around the nest site until the hatchlings have moved to a nearby aquatic site.</p> | G | CD(P)(E) |
| 39. | ✓ | <p>Prior to initiation of construction activities that would impact jurisdictional wetlands, the owner/applicant shall obtain permits pertaining to Section 404 and 401 of the Federal Clean Water Act and Section 1600 of the California Fish and Game Code. The owner/project applicant shall provide evidence that said permits have been obtained, or that the permit is not required, subject to Community Development Department review and approval of any grading or improvement plans. The owner/applicant shall provide all mitigation required under those permits. Construction activities shall follow standard engineering practices that reduce impacts to water quality, including off-site waters adjacent to the project site. The practices include reduction of sediment loading and disturbance as well as other standard Best Management Practices (BMP) for maintaining water quality.</p> | G, I | CD(P)(E) |

CULTURAL RESOURCE REQUIREMENTS

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|-----|--|---|------|-----------|
| 40. | <p>If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:</p> <ul style="list-style-type: none"> • If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required. • If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the relevant federal and CEQA agencies, and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be eligible for inclusion in the NRHP or CRHR. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to their satisfaction. | ✓ | G, I | CD (P)(E) |
|-----|--|---|------|-----------|

| | | | | |
|-----|---|--|------|-----------|
| 41. | ✓ | <p>If the find includes human remains, or remains that are potentially human, the archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Sacramento County Coroner. The provisions of § 7050.5 of the California Health and Safety Code, Section 5097.98 of the California Public Resources Code, and Assembly Bill 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, then the Coroner will notify the Native American Heritage Commission, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the Public Resources Code). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, then the NAHC can mediate (§ 5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinterment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.</p> | G, I | CD (P)(E) |
| 42. | ✓ | <p>If paleontological or other geologically sensitive resources be identified during any phase of project development, the construction manager shall cease operation at the site of the discovery and immediately notify the Community Development Department. The owner/applicant shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less than significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the Community Development Department shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.</p> | G, I | CD (P)(E) |

AIR QUALITY REQUIREMENTS

| | | | | |
|-----|--|--|---------|--------------|
| 43. | | All diesel-powered off-road equipment used during project construction shall meet Tier 3 off-road emissions standards. A copy of each unit's certified Tier specification shall be provided to the City of Folsom Building Department at the time of mobilization of each applicable unit of equipment. | G, I, B | CD (P)(E)(B) |
| 44. | | Construction emissions shall be maintained and operated to minimize exhaust emissions. During construction, trucks and equipment shall be running only when necessary. Engines shall be shut off when trucks are loading, unloading, or waiting. Equipment shall also be kept in good condition and well-tuned to minimize exhaust emissions. | G, I, B | CD (P)(E)(B) |
| 45. | | <p>The owner/applicant shall be responsible for ensuring that the contractor shall reduce NOx, ROC, and CO emissions by complying with the construction vehicle air pollutant control strategies developed by the SMAQMD. The developer shall include in the construction contracts the following requirements:</p> <ul style="list-style-type: none"> • During smog season (May through October), the construction period shall be lengthened so as to minimize the number of vehicles and equipment operating at the same time. • New technologies shall be utilized to control ozone precursor emissions as they become available and feasible. | G, I, B | CD (P)(E)(B) |

| | | | |
|-----|---|---------|--------------|
| 46. | <p>The owner/applicant shall follow all construction control measures recommended by the Sacramento Air Quality Management District (SMAQMD). The following control measures, which are consistent with basic construction emission control practices recommended by SMAQMD, shall be implemented by the owner/applicant to reduce PM10 emission during construction:</p> <ul style="list-style-type: none"> • Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads. • Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered. • Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited. • Limit vehicle speeds on unpaved roads to 15 miles per hour (mph). • All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site. • Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated. | G, I, B | CD (P)(E)(B) |
|-----|---|---------|--------------|

HAZARDOUS MATERIALS REQUIREMENTS

| | | | |
|---|--|---------|--------------|
| 47. | Discovery of unknown contaminated soils during construction. If during construction, currently unknown contaminated soils are discovered (i.e., discolored soils, odorous, other indications), construction within the area shall be halted, the extent and type of contamination shall be characterized, and a clean-up plan shall be prepared and executed. The plan shall require remediation of contaminated soils. The plan shall be subject to the review and approval of SCEMD, RWQCB, the City of Folsom, or other agencies, as appropriate. Remediation can include in-situ treatment, disposal at an approved landfill, or other disposal methods, as approved. Construction can proceed within the subject area upon approval of and in accordance with the plan. | G, I, B | CD (P)(E)(B) |
| TRAFFIC, ACCESS, CIRCULATION, AND PARKING REQUIREMENTS | | | |
| 48. | A minimum of 140 vehicle parking spaces shall be provided for the project. In addition, a minimum of 14 bicycle parking spaces shall be provided to serve residents. The bicycle parking spaces shall be evenly distributed throughout the project site. | I, O | CD (P,E) |

| | | | |
|-----|----------|---|------------------------|
| 49. | <p>✓</p> | <p>In accordance with the Traffic Impact Study prepared by MRO Engineers, Inc. dated February 15, 2017, the following traffic design measures shall be implemented to the satisfaction of the Community Development Department:</p> <ul style="list-style-type: none"> • “STOP” signs and appropriate pavement markings shall be installed at the two project driveways located on Blue Ravine Road and Oak Avenue Parkway respectively. • The two project driveways located on Blue Ravine Road and Oak Avenue Parkway respectively shall be restricted to right-turns, both inbound and outbound. To ensure the driveway turn restriction is effective at the Blue Ravine Road driveway location, a raised median shall be constructed on Blue Ravine Road connecting the existing median west of the project site with the existing median on the west leg of the Blue Ravine Road/Oak Avenue Parkway intersection. • The intersection of Blue Ravine Road/Oak Avenue Parkway shall be modified (replacement of signage on traffic signal mast) to allow U-turns on the eastbound approach to Oak Avenue Parkway from Blue Ravine Road • The Blue Ravine Road project driveway shall be designed so that existing vehicles are approximately level as they wait to exit the project site. • The existing sidewalk located along the project’s frontage of Blue Ravine Road shall be extended to the western project boundary. The final location and orientation of the sidewalk extension shall be to the satisfaction of the Community Development Department. • Pedestrian sidewalks shall be added to both sides of the Blue Ravine Road project driveway to provide access from the project site to the future sidewalk located along the frontage of Blue Ravine Road to the satisfaction of the Community Development Department. | <p>I CD (P)(E)</p> |
|-----|----------|---|------------------------|

NOISE REQUIREMENTS

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|-----|--|--|------|-----------|
| 50. | | <p>The owner/applicant shall construct a five-foot-tall solid masonry noise barrier around the northern, western, and eastern perimeter of the swimming pool area. The location, design, materials, and colors of the noise barrier shall be subject to review and approval by the Community Development Department.</p> | B | CD (P)(E) |
| 51. | | <p>Compliance with Noise Control Ordinance and General Plan Noise Element shall be required. Hours of construction operation shall be limited from 7:00 a.m. to 6:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on Saturdays. No construction is permitted on Sundays or holidays. Construction equipment shall be muffled and shrouded to minimize noise levels.</p> | I, B | CD (P)(E) |

ARCHITECTURE/SITE DESIGN REQUIREMENTS

| | | | |
|-----|---|---|--------|
| 52. | <p>The project shall comply with the following architecture and design requirements:</p> <ol style="list-style-type: none"> 1. This approval is for five (5) individual apartment buildings and one (1) community recreation building associated with the Parkway Apartment Community project. The applicant shall submit building plans that comply with this approval, the attached building elevations dated July 30, 2016. 2. The design, materials, and colors of the proposed Parkway Apartment Community buildings shall be consistent with the submitted building elevations, color renderings, materials samples, and color scheme to the satisfaction of the Community Development Department. 3. Roof-mounted mechanical equipment, including satellite dish antennas, shall not extend above the height of the parapet walls. Ground-mounted mechanical equipment shall be shielded by landscaping or trellis type features. 4. Utility equipment such as transformers, electric and gas meters, electrical panels, and junction boxes shall be screened by walls and or landscaping. 5. Brick pavers, stamped colored asphalt, or another type of colored masonry material (ADA compliant) shall be used to designate pedestrian crosswalks on the project site, in addition to where pedestrian paths cross drive aisles, and shall be incorporated as a design feature at the driveway entrances. 6. The final design of the building-attached light fixtures shall be subject to review and approval by the Community Development Department to ensure architectural consistency with the apartment buildings. 7. The final design of the carport structures shall be subject to review and approval by the Community Development Department to ensure architectural consistency with the apartment buildings. 8. The final color scheme for the apartment buildings and common recreation building shall be subject to review and approval by the Community Development Department | B | CD (P) |
|-----|---|---|--------|

GRADING REQUIREMENTS

| | | | |
|--|---|-------|-------------|
| 53. | The owner/applicant shall locate and remediate all antiquated mine shafts, drifts, open cuts, tunnels and water conveyance or impoundment structures existing on the project site, with specific recommendations for the sealing, filling or removal of each that meet all applicable health, safety, and engineering standards. Recommendations shall be prepared by an appropriately licensed engineer or geologist. All remedial plans shall be reviewed and approved by the City. | G, I | CD (E) |
| FIRE DEPARTMENT REQUIREMENTS | | | |
| 54. | The buildings shall have illuminated addresses visible from the street or drive fronting the property. Size and location of address identification shall be reviewed and improved by the Fire Department. | I | FD |
| 55. | Prior to the issuance of any improvement plans or building permits, the Community Development and Fire Departments shall review and approve all detailed design plans for accessibility of emergency fire equipment, fire hydrant flow location, and other construction features. | I, B | FD |
| ENVIRONMENTAL AND WATER RESOURCE REQUIREMENTS | | | |
| 56. | The project shall comply with all measures identified by the City of Folsom to meet the 28 percent reduction in Citywide water use compared to 2013, including, if generally required by the City, the installation of ultra-low water use appliances, and any other applicable measures adopted by the City. | I, OG | EWR, CD (E) |
| 57. | The owner/applicant shall be subject to all requirements established by <u>Folsom Municipal Code (FMC, Chapter 17.26, Water Conservation)</u> relative to water conservation. | I, OG | EWR, CD (E) |

PARKS AND RECREATION

| | | | |
|-----|---|---|----|
| 58. | <p>The owner/applicant shall implement the following measures as recommended by the Parks and Recreation Commission on March 7, 2017:</p> <ul style="list-style-type: none"> • The owner/applicant shall incorporate the design and construction of a 10-foot wide paved Class I bike trail with a 4-foot shoulder on one side and a 1-foot shoulder on the other, constructed with decomposed granite. The trail will extend east and north from its current terminus behind the Pinnacle at Blue Ravine Apartments to the intersection of Blue Ravine Road and Oak Avenue Parkway; including a trail connection to the existing sidewalk along Oak Avenue Parkway. Where the new trail meets and abuts the sidewalk near the intersection of Oak Avenue Parkway and Blue Ravine Road, the sidewalk shall be widened to a minimum of 10-feet to accommodate two-way bike/pedestrian traffic if feasible based on potential impacts to nearby wetlands. • The owner/applicant shall incorporate transitional landscaping consistent with the HBWC Master Plan guidelines along the north side of the proposed trail adjacent to the driveway that connects to Oak Avenue Parkway. Landscaping will extend from the current trail terminus behind the Pinnacle at Blue Ravine Apartments to the sidewalk at Oak Avenue Parkway. • The owner/applicant shall provide frontage improvements along Blue Ravine Road, including curb, gutter and sidewalk, filling the current gap that exists between the Pinnacle at Blue Ravine Apartments and the intersection of Oak Avenue and Blue Ravine Road. The aforementioned improvements shall match the existing improvements along the Blue Ravine Road and Oak Avenue Parkway frontages. | I | PK |
|-----|---|---|----|

POLICE/SECURITY REQUIREMENT

| | | | | |
|-----|--|---|---------|----|
| 59. | | <p>The owner/applicant shall consult with the Police Department in order to incorporate all reasonable crime prevention measures. The following security/safety measures shall be required:</p> <ul style="list-style-type: none"> • A security guard shall be on-duty at all times at the site or a six-foot security fence shall be constructed around the perimeter of construction areas. (This requirement shall be included on the approved construction drawings). • Security measures for the safety of all construction equipment and unit appliances shall be employed. • Landscaping shall not cover exterior doors or windows, block line-of-sight at intersections or screen overhead lighting. | G, I, B | PD |
|-----|--|---|---------|----|

MISCELLANEOUS REQUIREMENT

| | | | | |
|-----|--|---|----------|-----------|
| 60. | | <p>The proposed project shall comply with all State and local rules, regulations, Governor's Declarations, and restrictions including but not limited to: Executive Order B-29-15 issued by the Governor of California on December 1, 2015 relative to water usage and conservation, requirements relative to water usage and conservation established by the State Water Resources Control Board, and water usage and conservation requirements established within the <u>Folsom Municipal Code, (Chapter 13.26 Water Conservation)</u>, or amended from time to time.</p> | I, B, OG | CD (P)(E) |
| 61. | | <p>The owner/applicant shall request materials from the Folsom-Cordova Unified School District regarding the District's school housing philosophy and shall make available such materials to prospective apartment renters at the project leasing office. Additionally, the owner/applicant shall provide written evidence signed by the project renters that such materials have been presented to the renters as part of the lease transaction and that the renters are aware that children from this development may not be able to attend their designated neighborhood school.</p> | B, O | CD (P) |
| 62. | | <p>The final trash and recycling collection plan shall be subject to review and approval by the Community Development Department.</p> | I, B | CD (P) |
| 63. | | <p>Decorative pilasters shall be added at each corner location at both of the driveway entrances, and at all pedestrian opening locations. In addition, the final location, design, height, materials, and colors of the fencing and pilasters shall be subject to review and approval by the Community Development Department.</p> | B | CD (P) |

| | | | | |
|-----|--|---|---|--------|
| 64. | | The owner/applicant shall provide public easements for the bicycle/pedestrian trail located along the southern portion of the project site and the bicycle/pedestrian trail located in the northeast corner of the project site. | I | CD (P) |
| 65. | | If applicable, the owner/applicant shall dedicate a pedestrian easement for the existing and proposed sidewalks located along the frontage of Blue Ravine Road and Oak Avenue Parkway. | I | CD (P) |
| 66. | | The owner/applicant shall obtain permission (permit, letter, agreement, etc.) from all applicable public utility companies (SMUD, PG&E, WAPA, etc.) in a form acceptable to the Community Development Department for construction-related activities proposed within the existing public utility easements. | I | CD (P) |

Attachment 1

Vicinity Map

Vicinity Map



Attachment 2

Preliminary Site Plan, dated June 1, 2016

PLAN PREPARED BY:
 PACIFIC WEST ARCHITECTURE
 430 E. STATE STREET, SUITE 100
 FOLSOM, CA 95630
 (206) 461-2025
 (206) 461-2027

APPLICANT:
 PACIFIC WEST ASSOCIATES
 430 E. STATE STREET, SUITE 100
 FOLSOM, CA 95630
 (206) 461-2025
 (206) 461-2027

ADAPTABLE UNITS (ALL-GROUND FLOOR REQ.)
 13 UNITS
 11,000 SQ. FT.
 1,170 SQ. FT. PER UNIT

UNIT MIX SUMMARY:
 130 1-BEDROOM UNITS - 1,170 SQ. FT.
 10 2-BEDROOM UNITS - 2,340 SQ. FT.
 10 3-BEDROOM UNITS - 3,510 SQ. FT.
 10 4-BEDROOM UNITS - 4,680 SQ. FT.
 77 UNITS TOTAL
 23,700 SQ. FT.
 2,655 SQ. FT. PER UNIT

PARKING SUMMARY:
 130 1-BEDROOM UNITS - 130 SPACES
 10 2-BEDROOM UNITS - 20 SPACES
 10 3-BEDROOM UNITS - 30 SPACES
 10 4-BEDROOM UNITS - 40 SPACES
 77 UNITS TOTAL - 220 SPACES
 2.86 SPACES PER UNIT

DEVELOPER:
 PACIFIC WEST ASSOCIATES
 430 E. STATE STREET, SUITE 100
 FOLSOM, CA 95630
 (206) 461-2025
 (206) 461-2027

DATE: _____
 REVIEWED BY: _____
 APPROVED BY: _____

DATE: _____
 REVIEWED BY: _____
 APPROVED BY: _____

DATE: _____
 REVIEWED BY: _____
 APPROVED BY: _____

PRE DEPARTMENT NOTES:
 1. ALL UNITS SHALL BE INSTALLED WITH A SPRINKLER SYSTEM WITH A MINIMUM OF 1.5 INCHES OF CLEARANCE FROM THE WALL AREA.
 2. AN AUTOMATIC FIRE SPRINKLER SYSTEM SHALL BE INSTALLED IN ALL BUILDINGS NOT PROTECTED BY AN AUTOMATIC SPRINKLER SYSTEM.
 3. AN APPROVED MONITORED FIRE ALARM DETECTION SYSTEM SHALL BE INSTALLED IN ALL BUILDINGS NOT PROTECTED BY AN AUTOMATIC SPRINKLER SYSTEM.
 4. ALL WATERFLOW SWITCHES AND VALVES CONTROLLING THE WATER SUPPLY (INCLUDING CARRY OVERS) AT THE BACKFLOW PREVENTER AND SITE PUMP SHALL BE INSTALLED WITH A WATERFLOW SWITCH AND VALVE CONTROLLING THE WATER SUPPLY. THE WATERFLOW SWITCH AND VALVE SHALL BE INSTALLED WITH A WATERFLOW SWITCH AND VALVE CONTROLLING THE WATER SUPPLY. THE WATERFLOW SWITCH AND VALVE SHALL BE INSTALLED WITH A WATERFLOW SWITCH AND VALVE CONTROLLING THE WATER SUPPLY.
 5. A WATERFLOW SWITCH AND VALVE CONTROLLING THE WATER SUPPLY SHALL BE INSTALLED WITH A WATERFLOW SWITCH AND VALVE CONTROLLING THE WATER SUPPLY.
 6. PROPERTY MARKERS SHALL BE SET BY THE SURVEYOR OR INTERNALLY ILLUMINATED ON A MINIMUM OF 12 INCHES FROM THE PROPERTY LINE.
 7. WITH THEIR BACKGROUND, THE SIZE OF THE ADDRESS NUMBERS SHALL BE A MINIMUM OF 12 INCHES.
 8. BEFORE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF FOLSOM.
 9. ALLOWED ON SITE. ALL WEATHER ACCESS IS DEFINED AS 4' OF CONTACT AS FROM MAY 1 TO SEPTEMBER 31 AND 2' AS FROM OCTOBER 1 TO APRIL 30.

CONTRACTED SO. FOOTAGES:
 130 1-BEDROOM UNITS - 1,170 SQ. FT.
 10 2-BEDROOM UNITS - 2,340 SQ. FT.
 10 3-BEDROOM UNITS - 3,510 SQ. FT.
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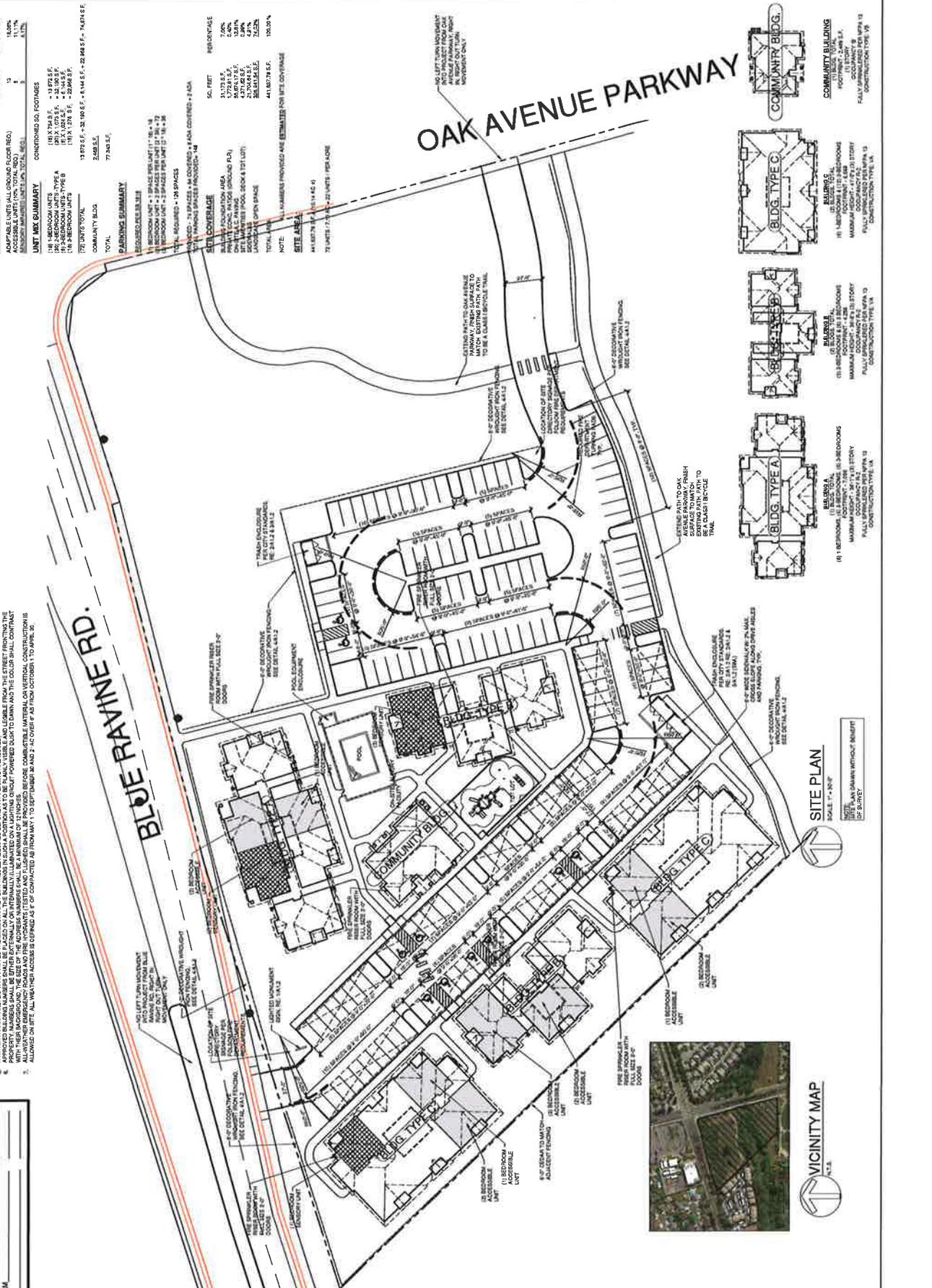
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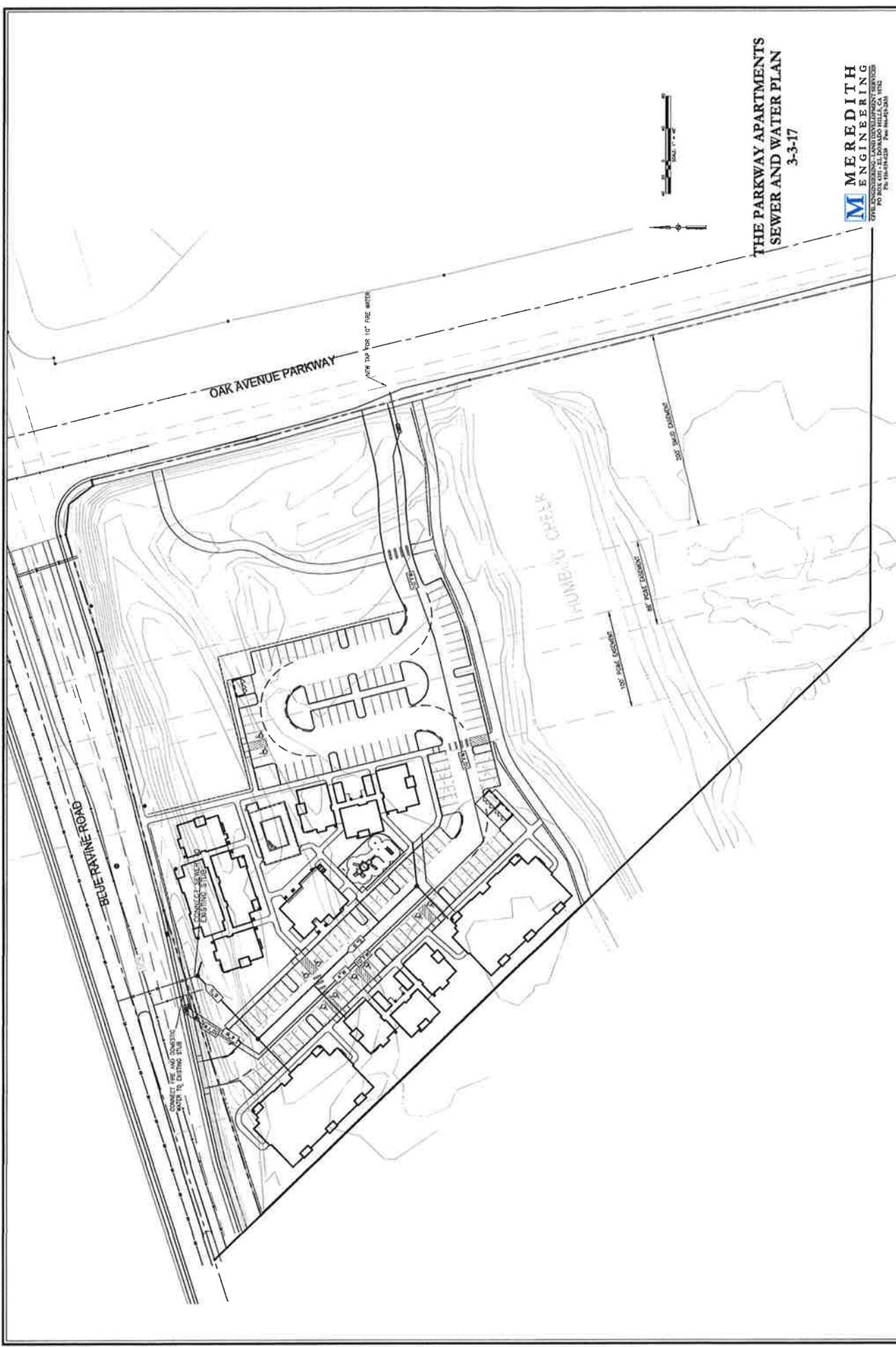
SCALE: 1/8" = 1'-0"
 THE PLAN SHALL BE SUBJECT TO THE CITY OF FOLSOM'S REVIEW AND APPROVAL.
 VICINITY MAP
 A1.1

Attachment 3

Preliminary Grading and Drainage Plan
Dated March 3, 2017

Attachment 4

Preliminary Utility Plan, dated March 3, 2017



**THE PARKWAY APARTMENTS
SEWER AND WATER PLAN**
3-3-17

MEREDITH
ENGINEERING
CIVIL ENGINEERING, LAND DEVELOPMENT SERVICES
PO BOX 101141 SAN DIEGO, CA 92110
TEL: 619.444.1111 FAX: 619.444.1112

Attachment 5

Preliminary Landscape and Irrigation Plan
Dated June 1, 2016

REVISIONS

PACIFIC WEST ARCHITECTURE
 1255 GRAND CENTRAL STATION AVENUE, SUITE 100
 LOS ANGELES, CA 90015
 TEL: (213) 690-1234
 FAX: (213) 690-1235
 WWW: PACIFICWESTARCH.COM

THE PARKWAY APARTMENTS
 1000 STATE STREET, SUITE 100
 LOS ANGELES, CA 90015
 TEL: (213) 690-1234
 FAX: (213) 690-1235
 WWW: PACIFICWESTARCH.COM

LANDSCAPE ARCHITECTURE
 1000 STATE STREET, SUITE 100
 LOS ANGELES, CA 90015
 TEL: (213) 690-1234
 FAX: (213) 690-1235
 WWW: PACIFICWESTARCH.COM

UNDERGROUND SERVICE ALERT
 Call Toll Free
 1-800-642-2444

THOMAS H. PHELPS
 LANDSCAPE ARCHITECTURE
 1000 STATE STREET, SUITE 100
 LOS ANGELES, CA 90015
 TEL: (213) 690-1234
 FAX: (213) 690-1235
 WWW: PACIFICWESTARCH.COM



NOTES:

- Plantings shall be installed in accordance with the specifications and quantities shown on this plan. The contractor shall be responsible for obtaining all necessary permits and approvals for the installation of the plantings.
- The contractor shall be responsible for the maintenance of the plantings during the construction period. The contractor shall be responsible for the removal of any dead or damaged plantings during the construction period.
- The contractor shall be responsible for the installation of the plantings in accordance with the specifications and quantities shown on this plan. The contractor shall be responsible for the maintenance of the plantings during the construction period. The contractor shall be responsible for the removal of any dead or damaged plantings during the construction period.
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GENERAL NOTES:

- The landscape plan was developed in accordance with the specifications and quantities shown on this plan. The contractor shall be responsible for the installation of the plantings in accordance with the specifications and quantities shown on this plan. The contractor shall be responsible for the maintenance of the plantings during the construction period. The contractor shall be responsible for the removal of any dead or damaged plantings during the construction period.
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PLANT LEGEND - ON SITE LIST OF SPECIES TO BE INSTALLED:

TREES

| Code | Botanical Name - Common Name | Size | Qty | Notes |
|------|------------------------------------|------|-----|-------|
| T1 | Acer x freemanii - Norway Spruce | 40' | 1 | |
| T2 | Arbutus Menziesii - Madrone | 40' | 1 | |
| T3 | Logania indica - Yellow Palm | 40' | 1 | |
| T4 | Platanus alata - London Plane Tree | 40' | 1 | |
| T5 | Prunella americana - Black Cherry | 40' | 1 | |
| T6 | Zelkova serrata - Japanese Zelkova | 40' | 1 | |
| T7 | Quercus laevis - Live Oak | 40' | 1 | |

GROUND COVERS

| Code | Botanical Name - Common Name | Size | Qty | Notes |
|------|---|------|-----|-------|
| G1 | Muscivora rigida - Dwarf Grass | 15" | 1 | |
| G2 | Stipa tenuifolia - Meadow Feather Grass | 15" | 1 | |

GRAND TOTALS:

| Category | Quantity | Unit Price | Total Price |
|---------------|----------|------------|-----------------|
| Trees | 7 | \$1,256 | \$8,792 |
| Ground Covers | 2 | \$1,256 | \$2,512 |
| Planting | 1 | \$1,256 | \$1,256 |
| Removal | 1 | \$1,256 | \$1,256 |
| Subtotal | | | \$13,516 |
| Contingency | | | \$1,256 |
| Total | | | \$14,772 |

NOTES:

- Contractor to verify all quantities from plan. Plant legend is for reference only.
- PH: ALLGOLS IV Major Use Classification of Landscape Species Evaluation 184-2004, Region 2, Sweet's Zone 8/1
- NO SUBSTITUTIONS WITHOUT PREVIOUS WRITTEN CONSENT FROM THE LAND ARCHITECT.

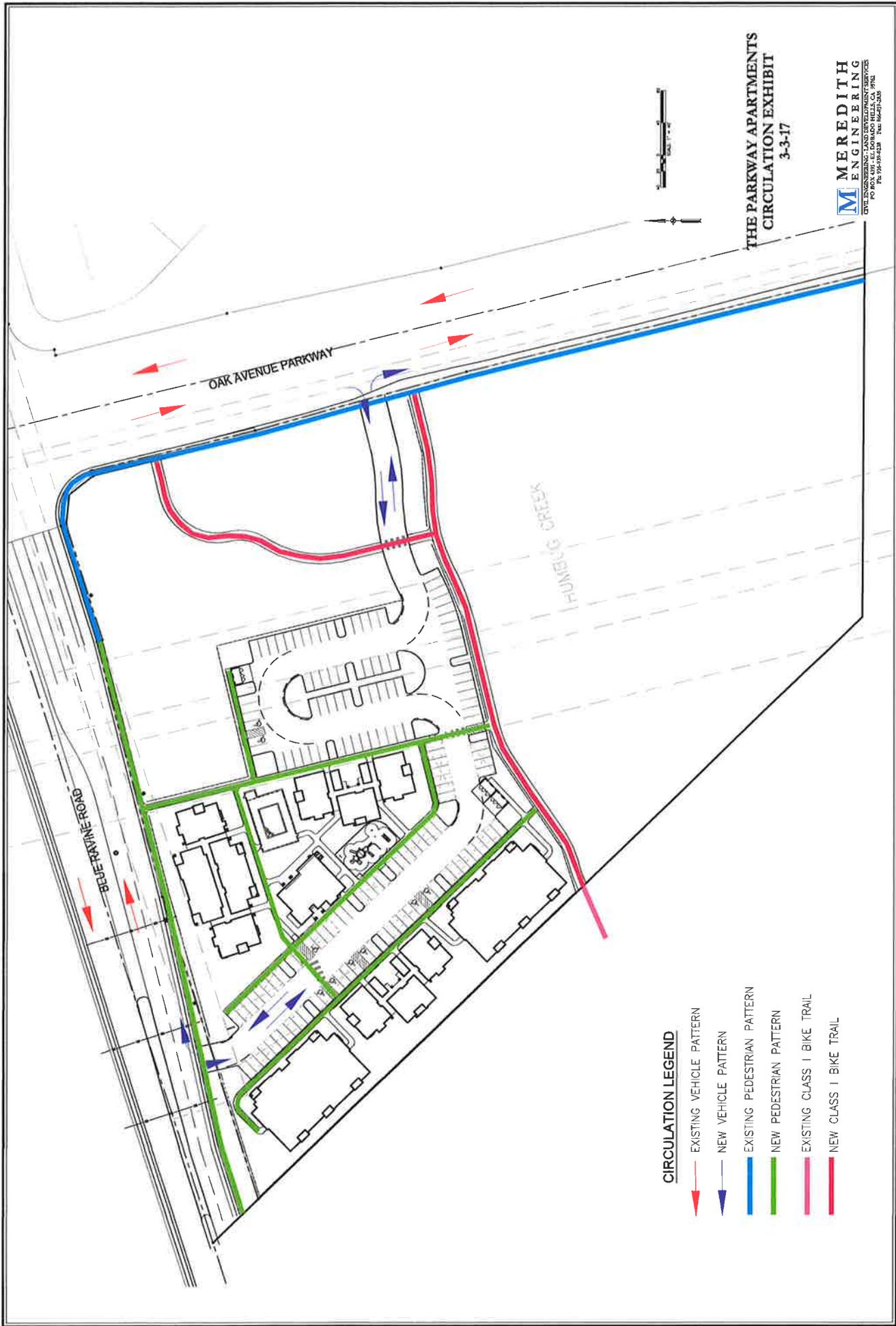
LANDSCAPE MASTER PLAN

Scale: 1" = 30'

North Arrow

Attachment 6

Preliminary Access and Circulation Plan
Dated March 3, 2017



CIRCULATION LEGEND

- EXISTING VEHICLE PATTERN
- NEW VEHICLE PATTERN
- EXISTING PEDESTRIAN PATTERN
- NEW PEDESTRIAN PATTERN
- EXISTING CLASS I BIKE TRAIL
- NEW CLASS I BIKE TRAIL



**THE PARKWAY APARTMENTS
CIRCULATION EXHIBIT
3-3-17**

M **MEREDITH**
E **ENGINEERING**
CIVIL ENGINEERING - LAND DEVELOPMENT SERVICES
PO BOX 601 - EL DORADO HILLS, CA 95620
TEL: 916-835-1200 FAX: 916-835-1205

Attachment 7

Preliminary Building Elevations, dated June 1, 2016

Attachment 8

Color Building Elevations and Renderings
Dated June 1, 2016

AX1.3

THE PARKWAY
APARTMENTS

5905 BLUE HAVEN RD & GUN AVENUE PARKWAY
FOLSOM, CA

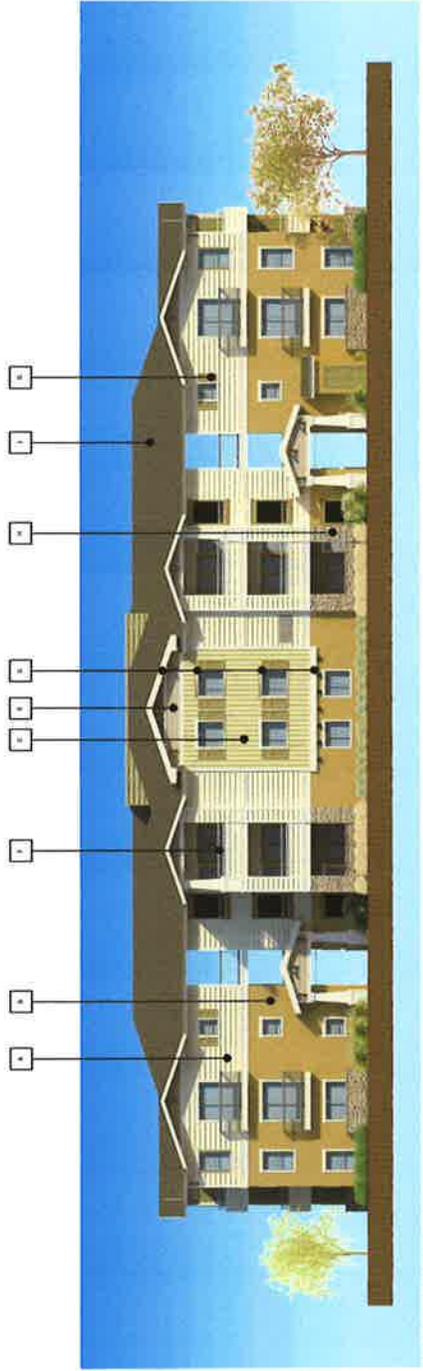
PROJECT
499 E. STATE STREET, SUITE 100
FOLSOM, CA 95630
TEL: (916) 437-2977
WWW.PACIFICWESTARCHITECTURE.COM

ALASKA - ARIZONA - CALIFORNIA - COLORADO - HAWAII - ILLINOIS -
LOUISIANA - MONTANA - NEVADA - NORTH CAROLINA - OREGON -
SOUTH DAKOTA - UTAH - VIRGINIA - WASHINGTON - WYOMING



PACIFIC WEST ARCHITECTURE
1000 MARINER COURT, SUITE 100
FOLSOM, CA 95630
TEL: (916) 437-2977
WWW.PACIFICWESTARCHITECTURE.COM

PROJECT NO. 19-001
DATE 08/15/2019
DRAWN BY JLM
CHECKED BY JLM
SCALE AS SHOWN



1. BLDG. TYPE A - FRONT ELEVATION
N/S/E



A HORIZONTAL LAP SIDING
1/2" x 6" T&G
1/2" x 6" T&G
1/2" x 6" T&G



B STUCCO SIDING
3/8" x 12" x 1/2"
3/8" x 12" x 1/2"



C BOARD AND BATTEN SIDING
1/2" x 6" x 1/2"
1/2" x 6" x 1/2"



D TRIM BOARDS, FINISH FASCIA,
CORNER BOARDS, WINDOW TRIM,
DOOR TRIM
1/2" x 6" x 1/2"



E SHAKE SIDING
1/2" x 6" x 1/2"
1/2" x 6" x 1/2"



F POWDER COATED METAL
RAILINGS
CLASSIC TO RUSTIC BLACK FINISH



G WOOD SHUTTERS
1/2" x 6" x 1/2"
1/2" x 6" x 1/2"

H STONE VENEER
1/2" x 6" x 1/2"
1/2" x 6" x 1/2"



I ASPHALT SHINGLES
30 YEAR WARRANTY

AX1.4

THE PARKWAY
APARTMENTS

PROJECT

3800 BLUE HAVEN RD. & GARDEN AVENUE, FARMERSVILLE, CA 94504

Pacific West Architecture
490 E. STATE STREET, SUITE 100
FAC #: 2493 8218
TEL: (925) 461-1202
WWW.PACIFICWESTARCH.COM

ALASKA - ARIZONA - CALIFORNIA - COLORADO - HAWAII - ILLINOIS -
LOUISIANA - MONTANA - NEVADA - NORTH CAROLINA - OREGON -
SOUTH CAROLINA - TEXAS - UTAH - VIRGINIA - WASHINGTON - WYOMING

PACIFIC WEST ARCHITECTURE
ARCHITECTS

1000 RIVER STREET, SUITE 100
SAN FRANCISCO, CA 94133
TEL: (415) 774-1100
WWW.PACIFICWESTARCH.COM

| | |
|---------|------------|
| PROJECT | AX1.4 |
| DATE | 02/15/2024 |
| SCALE | AS SHOWN |

| | |
|-----------|--|
| REVISIONS | |
|-----------|--|



1. BLDG. TYPE B - FRONT ELEVATION
N.T.S.

A HORIZONTAL LAP SIDING
WOOD SHIP
WOOD SHIP

B STUCCO SIDING
WOOD SHIP
WOOD SHIP

C BOARD AND BATTEN SIDING
WOOD SHIP
WOOD SHIP

D TRIM BOARDS, FINISH FASCIA,
DOOR TRIM, SHUTTERS, WINDOW TRIM,
DOOR TRIM
WOOD SHIP

E SHAKE SIDING
WOOD SHIP
WOOD SHIP

F POWDER COATED METAL
FINISHES
WOOD SHIP

G WOOD SHUTTERS
WOOD SHIP
WOOD SHIP

H STONE VENEER
WOOD SHIP
WOOD SHIP

I ASPHALT SHINGLES
WOOD SHIP
WOOD SHIP



AX1.1

THE PARKWAY
APARTMENTS

PROJECT
390 E STATE STREET, SUITE 100
EAST DENVER, COLORADO 80202
TEL: (303) 733-2277
WWW.PACIFICWESTARCHITECTURE.COM

Pacific West Architecture

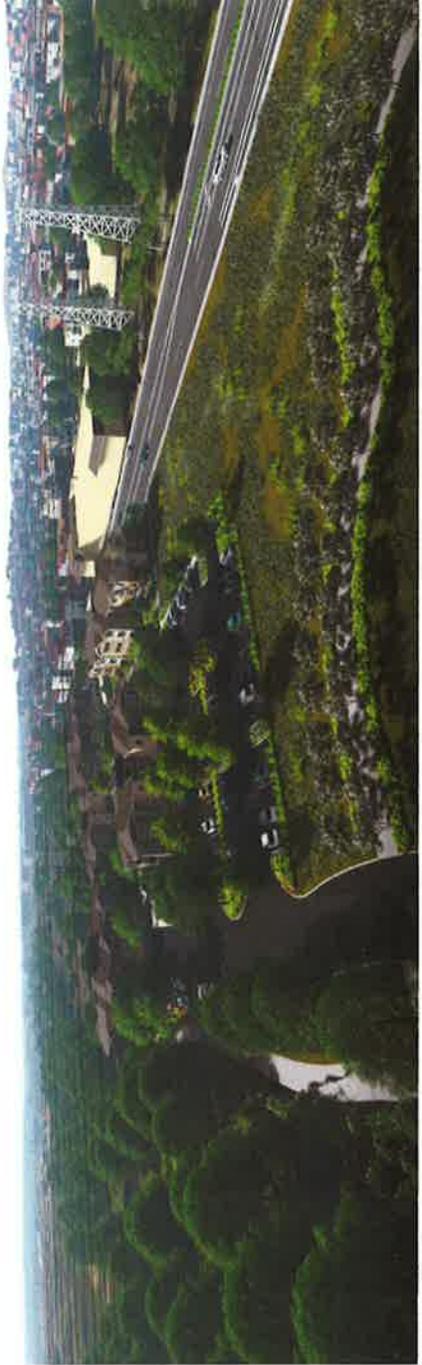
ALASKA - ARIZONA - CALIFORNIA - COLORADO - CONNECTICUT - FLORIDA - GEORGIA - ILLINOIS - IOWA - KANSAS - LOUISIANA - MARYLAND - MASSACHUSETTS - MICHIGAN - MINNESOTA - MISSISSIPPI - MISSOURI - MONTANA - NEBRASKA - NEVADA - NEW JERSEY - NEW YORK - NORTH CAROLINA - NORTH DAKOTA - OHIO - OKLAHOMA - OREGON - PENNSYLVANIA - RHODE ISLAND - SOUTH CAROLINA - TEXAS - UTAH - VIRGINIA - WASHINGTON - WISCONSIN - WYOMING



| | |
|-----------|----------|
| PROJECT | PAC1507 |
| DATE | 08/15/18 |
| BY | BT/ML |
| REVISIONS | |



1. VIEW FROM BLUE BAYONE
N.T.S.



2. VIEW FROM OAK AVENUE
N.T.S.

AX1.5

THE PARKWAY
APARTMENTS

FOUNDA, CA

430 E. STATE STREET, SUITE 100
SUNLAND, CA 91769
(909) 441-8200
PACIFIC WEST ARCHITECTURE

ALABAMA - ARIZONA - CALIFORNIA - COLORADO - FLORIDA - GEORGIA - ILLINOIS - INDIANA - IOWA - KANSAS - MICHIGAN - MINNESOTA - MISSISSIPPI - MISSOURI - MONTANA - NEBRASKA - NEVADA - NEW YORK - NORTH CAROLINA - NORTH DAKOTA - OHIO - OKLAHOMA - OREGON - SOUTH CAROLINA - TEXAS - UTAH - VIRGINIA - WASHINGTON - WISCONSIN - WYOMING



| | |
|---------|------------------------|
| DATE | 04/15/18 |
| BY | 04/15/18 |
| PROJECT | THE PARKWAY APARTMENTS |

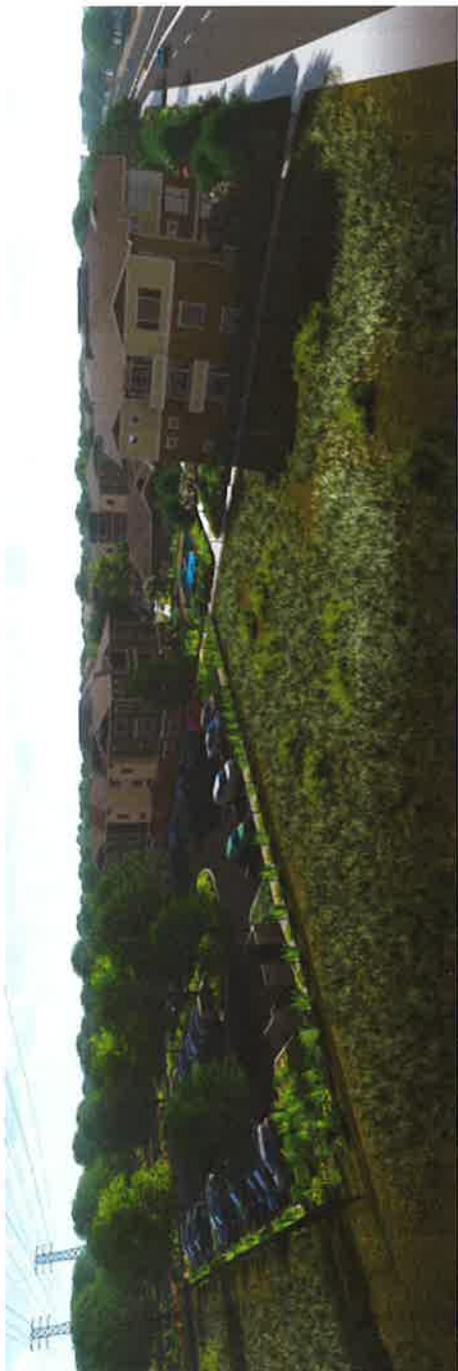
REVISIONS



1 POOL DECK VIEW



2 OUTDOOR LOUNGE VIEW



3 VIEW FROM OAK AVE PARKWAY AND BLUE RAINE RD LOOKING SOUTHWEST

Attachment 9

Initial Study, Mitigated Negative Declaration, and Mitigation Monitoring Program

FINAL

**Initial Study and
Mitigated Negative
Declaration**

The Parkway Apartments

Submitted to:



**City of Folsom
Community Development Department**

March 2017



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

**The Parkway Apartments Project
Final Mitigated Negative Declaration Approval**

APPROVAL OF THE PARKWAY APARTMENTS PROJECT

On behalf of the City of Folsom (City), I approve the proposed Parkway Apartments Project (Proposed Project). The City, as Lead Agency for the Proposed Project (State Clearinghouse Number 2016122056), hereby approves the Proposed Project based on the following findings:

PROJECT DESCRIPTION

The project applicant is requesting a Planned Development Permit from the City for a seventy-two (72) unit apartment complex with eighteen (18) one bedroom units with 754 square-foot units, thirty-six (36) two bedroom units with 1,073 and 1,024 square-foot units and eighteen (18) three bedroom units with 1,276 square-foot units on a 3.5-acre portion (project area) of the 10.11-acre project site. The density of the Proposed Project would be seven (7) units/per acre and would total 74,874 square feet of living space in the proposed 72 units. The Proposed Project would be 100 percent affordable with rents ranging from 30 to 60 percent Area Median Income (AMI). The project would be deed restricted for 55 years and would be financed using Federal Low Income Housing Tax Credits, Conventional Debt, Local Financing, and Developer Equity.

ENVIRONMENTAL REVIEW

The City has independently reviewed and considered the information contained in the whole record before it, including the Initial Study for the Proposed Project, prior to approving the Proposed Project. The Initial Study, prepared in compliance with the California Environmental Quality Act (CEQA), assessed the Proposed Project's potential effects on the environment and the significance of these effects. Based on the whole record before it, the City has determined that there is no substantial evidence that the Proposed Project would result in significant effects on aesthetics, agriculture and forestry resources, air quality, greenhouse gas emissions, hazards and hazardous materials, land use and planning, mineral resources, paleontological resources, population and housing, public services, recreation, tribal cultural resources, and utilities and service systems. Based on the whole record before it, the City has determined that, with mitigation, there is no substantial evidence that the Proposed Project would result in significant effects on biological resources, cultural resources, geology and soils, hydrology and water quality, noise, and transportation/traffic.

The Draft Initial Study/Mitigated Negative Declaration (IS/MND) was circulated to the public and to responsible public agencies for a public review period of 30 days starting on December 23, 2016 and ending on January 22, 2017. Due to public comments during the community meeting held on January 23, 2017, the comment period was extended 24 days to February 15, 2017. Six comment letters were received, and, together with the responses received during the community meeting, have been included in the Final IS/MND. As a result of comments received on the Draft IS/MND, no revisions were required to the Draft IS/MND text that would require recirculation of the document. A substantial revision according to Section 15073.5 of the *2013 CEQA Statute Guidelines* shall mean:

“(1) A new, avoidable significant effect is identified and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or

(2) The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required.”

**The Parkway Apartments Project
Final Mitigated Negative Declaration Approval**

The Notice of Determination for this Proposed Project has been prepared in accordance with CEQA and is hereby approved. The record of approval documents for the Proposed Project will be retained and made available for public review at the Folsom City Hall, 50 Natoma Street, Folsom, CA 95630.

The City has reviewed and considered the information contained in the Initial Study/Mitigated Negative Declaration prepared for the Proposed Project. Upon consideration of this information, and in accordance with CEQA, I hereby approve the Parkway Apartments Project.

David E. Miller

David E. Miller, Public Work & Community
Development Director
City of Folsom

Date 3/16/17

The Parkway Apartments Project

**Final
Initial Study/Mitigated Negative Declaration**

State Clearinghouse Number 2016122056

March 2017

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

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 2.2 Project Description 2-1

SECTION 3. Comments and Responses 3-1

SECTION 4. Revisions to the Draft Initial Study And Mitigated Negative Declaration... 4-1

SECTION 5. Mitigation Monitoring and Reporting Plan 5-1

SECTION 6. List of Attachments 6-1

Attachment A – Final Traffic Impact Analysis

Attachment B – Environmental Noise Assessment

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

FINAL MITIGATED NEGATIVE DECLARATION

The Parkway Apartments Project

Lead Agency:

City of Folsom (City)
Community Development Department
50 Natoma Street, Folsom, California 95630

Project Proponent:

City West Develop Ventures
555 Capital Mall Suite 410 Sacramento, California 95814

Project Location: The Proposed Project site consists of a 10.11-acre triangular parcel situated in the City of Folsom in northeastern Sacramento County, California at the southwest corner of Blue Ravine Road and Oak Avenue Parkway. The parcel is identified as Sacramento County Assessor Parcel Number (APN) 071-1240-001.

Project Description:

The project applicant is requesting a Planned Development Permit from the City for a seventy-two (72) unit apartment complex with eighteen (18) one bedroom units with 754 square-foot units, thirty-six (36) two bedroom units with 1,073 and 1,024 square-foot units and eighteen (18) three bedroom units with 1,276 square-foot units on a 3.5-acre portion (project area) of the 10.11-acre project site. The density of the Proposed Project would be seven (7) units/per acre and would total 74,874 square feet of living space in the proposed 72 units. The Proposed Project would be 100 percent affordable with rents ranging from 30 to 60 percent Area Median Income (AMI). The project would be deed restricted for 55 years and would be financed using Federal Low Income Housing Tax Credits, Conventional Debt, Local Financing, and Developer Equity.

Finding: Based on the information contained in the attached Initial Study, the City finds that there would not be a significant effect to the environment because the mitigation measures described herein would be incorporated as part of the Proposed Project.

Original Public Review Period: December 23, 2016 to January 23, 2017

Final Public Review Period (after extension): December 23, 2016 to February 15, 2017

Mitigation Measures Incorporated into the Project to Avoid Significant Effects

Biological Resources

Mitigation Measures

BIO-1 Preconstruction Nesting Bird Survey

Conduct a preconstruction nesting bird survey of all suitable habitat within 14 days prior to the commencement of construction during the nesting season (1 February through 31 August). If active nests are found, a no-disturbance buffer around the nest shall be

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

established. The buffer distance shall be established by a qualified biologist in consultation with CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. No further measures are necessary once the young are independent of the nest. Pre-construction nesting surveys are not required for construction activity outside the nesting season.

BIO-2 Preconstruction Survey for Northwestern Pond Turtles

To avoid construction-related impacts on northwestern pond turtles, the City will retain a wildlife biologist to conduct a preconstruction survey for northwestern pond turtles no more than 48 hours before the start of construction. The wildlife biologist will look for adult pond turtles, in addition to nests containing pond turtle hatchlings and eggs. If a western pond turtle is located in the construction area, the biologist will move the turtle to a suitable aquatic site outside the construction area. If an active pond turtle nest containing either pond turtle hatchlings or eggs is found, the City will consult the CDFW to determine and implement appropriate avoidance measures, which may include a "no-disturbance" buffer around the nest site until the hatchlings have moved to a nearby aquatic site.

BIO-3 Comply with Clean Water Act and California Fish and Game Code

Prior to the construction of any phase or component of the Proposed Project that involves impacting drainages, or wetlands through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification to a jurisdictional drainage, a jurisdictional delineation shall be conducted. Any jurisdictional impacts will require the owner/applicant to obtain permits from the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Central Valley Region Regional Water Quality Control Board (RWQCB) before any development can commence. Project specific mitigation for impacts to features jurisdictional to state and federal agencies will be determined during the wetland permitting process. Mitigation could include land conservation and management in perpetuity, on-site habitat enhancement and restoration, payment of in-lieu fees to authorized conservation organizations, or a combination of these measures. The owner/project applicant shall provide evidence that said permits have been obtained, or that the permit is not required, prior to staff review and approval of any grading or improvement plan.

Cultural Resources

Mitigation Measures

CUL-1 Unanticipated Discovery

If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- A. If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.

The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration

- B. If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the relevant federal and CEQA agencies, and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be eligible for inclusion in the NRHP or California Register of Historical Resources (CRHR). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to their satisfaction.

CUL-2 Human Remains Discovery

If the find includes human remains, or remains that are potentially human, the archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Sacramento County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, Section 5097.98 of the California Public Resources Code, and Assembly Bill 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, then the Coroner will notify the Native American Heritage Commission, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the Public Resources Code). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, then the NAHC can mediate (§ 5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

Geology and Soils

Mitigation Measures

GEO-1 Seismic related Liquefaction

During excavation activities a relatively thick non-liquefied layer shall be placed above the potentially liquefiable soils to act as a bridging layer that redistributes stresses and therefore results in more uniform ground surface settlement, as well as decreasing the amount of settlement.

GEO-2 Compressible Soils

- A. As identified in the geotechnical investigation prepared by ACE Quality Control, Inc., the upper seven to ten feet of loose tailings materials existing in the construction area shall be over excavated. Those earth materials deemed suitable for re-use as engineered fill could be stockpiled.

The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration

- B. If the unsuitable materials are not removed, then special foundation systems should be designed to account for potential total and differential settlements according to the specifications described in geotechnical investigation prepared by ACE Quality Control, Inc.
- C. Areas where deeper loose, wet soils are removed as well as areas where trees have been or will be cleared, remedial grading will also be required to remove the loose soils and ensure the removal of the entire tree root systems. Any slickens soils that might be encountered are considered highly compressible and expansive and shall be completely removed from the construction areas.
- D. Once the construction areas have been cleared, any unsuitable soils over-excavated and any other excavations made, then subgrades that will receive engineered fill, that are to be left at existing grade, or that represent final subgrades achieved by excavation should be scarified to at least 8 inches. Suitability of soils exposed in the bottom of all subgrades shall be verified by a qualified inspector during site grading. Upon favorable review, exposed subgrades should be scarified and recompacted (in-place) an additional 8 inches and/or prior to placing engineered fill materials to planned rough pad grade.

Hydrology and Water Quality

Mitigation Measure

H-1 Changes to Base Flood Elevations

Prior to the issuance of a grading permit the Project Proponent or their representative will obtain a Conditional Letter of Map Revision (CLOMR) from the Federal Emergency Management Agency (FEMA) for changes to Base Flood Elevations. Once project construction is complete, the project proponent or their representative shall request that FEMA review the alterations and issue a Letter of Map Revision (LOMR) for modifications to an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both. Proposed building pads shall be a minimum of 2 feet above the respective base flood elevation.

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

Noise

Mitigation Measure

N-1 Noise Barrier

The Proposed Project shall include a six-foot (or higher) solid masonry noise barrier (relative to building floors) on the western half of the site with frontage on Blue Ravine Road (except for the entrance/exit to the project site); or

The Proposed Project shall include a five-foot (or higher) solid masonry noise barrier around the northern, western and eastern perimeter of the proposed pool activity area.

Paleontological Resources

Mitigation Measure

P-1 Unanticipated Discovery of Paleontological Resources

If paleontological or other geologically sensitive resources be identified during any phase of project development, the construction manager shall cease operation at the site of the discovery and immediately notify the Community Development Department. The owner/applicant shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less than significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the Community Development Department shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out.

Transportation/Traffic

Mitigation Measures

T-1 Traffic Design

- A. The easterly nose of the existing raised median on Blue Ravine Road west of the project driveway shall be modified to reflect the configuration illustrated in the TIA.
- B. The Oak Avenue Parkway driveway shall be restricted to right turns only, both inbound and outbound.
- C. Both driveways shall have adequate sight distance for entering and exiting drivers. Sight lines to the west of the Blue Ravine Road driveway and to the north of the Oak Avenue Parkway driveway shall not be blocked.
- D. The Blue Ravine Road driveway shall be designed so that exiting vehicles are approximately level as they wait to depart.
- E. STOP-sign control shall be employed at both project driveways.

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

SECTION 1. INTRODUCTION

This document is the Final Initial Study/Mitigated Negative Declaration (IS/MND) and Mitigation Monitoring and Reporting Plan (MMRP) for the Parkway Apartments Project (Proposed Project). It has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resource Code Section 21000 et. seq.) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.) as amended. This Final IS/MND document supplements the Draft IS/MND released for public review on December 23, 2016.

The City of Folsom (City) is the Lead Agency for the Proposed Project. On December 23, 2016, the City distributed the Draft IS/MND for the Proposed Project to public agencies and the general public for review and comment. In accordance with the State CEQA Guidelines, a 30-day review period, which began on December 23, 2016, and ended on January 22, 2017 was completed. Due to public comments during the community meeting held on January 23, 2017, the comment period was extended 24 days to February 15, 2017. During the public review period, written comments on the Draft IS/MND were received from the California Department of Fish and Wildlife (CDFW), Central Valley Regional Water Quality Control Board (RWQCB), and the Sacramento Municipal Utility District (SMUD), the Governor's Office of Planning and Research, and two private citizens. This Final IS/MND document is organized as follows:

- Section 1 provides a discussion of the purpose of the document and discusses the structure of the document.
- Section 2 contains a summary of the Project Description, a description of minor changes to the Project Description and a discussion regarding why these changes do not require recirculation of the Draft IS/MND.
- Section 3 includes the comment letters received and responses to these comments.
- Section 4 includes corrections and revisions made to the Draft IS/MND in response to comments;
- Section 5 includes the Proposed Project's Mitigation Monitoring and Reporting Program (MMRP), prepared pursuant to Public Resources Code Section 21081.6.
- Section 6 includes Attachment A – Revised Draft Traffic Impact Analysis

This Final IS/MND document and the Draft IS/MND together constitute the environmental document for the Proposed Project.

As a result of comments received on the Draft IS/MND, minor revisions were required to the Draft IS/MND text; however, there were no substantial revisions that would require recirculation of the document. A substantial revision according to Section 15073.5 of the 2017 CEQA Statute Guidelines shall mean:

- “(1) A new, avoidable significant effect is identified and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or
- (2) The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required.”

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

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SECTION 2. PROJECT OVERVIEW

2.1 Project Location

The Proposed Project site consists of a 10.11-acre triangular parcel situated in the City of Folsom in northeastern Sacramento County, California at the southwest corner of Blue Ravine Road and Oak Avenue Parkway. The parcel is identified as Sacramento County Assessor Parcel Number (APN) 071-1240-001.

2.2 Project Description

The project applicant is requesting a Planned Development Permit from the City for a seventy-two (72) unit apartment complex with eighteen (18) one bedroom units with 754 square-foot units, thirty-six (36) two bedroom units with 1,073 and 1,024 square-foot units and eighteen (18) three bedroom units with 1,276 square-foot units on a 3.5-acre portion (project area) of the 10.11-acre project site. The density of the Proposed Project would be seven (7) units/per acre and would total 74,874 square feet of living space in the proposed 72 units. The Proposed Project would be 100 percent affordable with rents ranging from 30 to 60 percent Area Median Income (AMI). The project would be deed restricted for 55 years and would be financed using Federal Low Income Housing Tax Credits, Conventional Debt, Local Financing, and Developer Equity.

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**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

SECTION 3. COMMENTS AND RESPONSES

This section of the document contains copies of the comment letters received during the 30-day public review period, which began on December 23, 2016, and ended on January 22, 2017. Due to public comments during the community meeting held on January 23, 2017, the comment period was extended 24 days to February 15, 2017.

In conformance with Section 15088(a) of the State CEQA Guidelines, the City has considered comments on environmental issues from reviewers of the Draft IS/MND and has prepared written responses. Three letters were received during the 30-day public review period from CDFW, Central Valley RWQCB, and SMUD. Additionally, a letter was received from the State Clearinghouse, acknowledging that the City of Folsom has complied with review requirements. During the extended comment period, two additional letters were received from private citizens. These letters, and the responses to the comments contained in the letters are provided in this section.

3.1 List of Comment Letters

A list of public agencies, organizations, and individuals that provided comments on the Draft IS/MND is presented below. The letters and the responses to the comments follow this page.

| Letter Number | Sender | Date Received |
|----------------------|---|----------------------|
| 1 | California Department of Fish and Wildlife | 1/4/2017 |
| 2 | Central Valley Regional Water Quality Control Board | 1/17/2017 |
| 3 | Sacramento Municipal Utility District | 1/20/2017 |
| 4 | Governor's Office of Planning and Research | 1/24/2017 |
| 5 | Bill Bryant | 1/26/2017 |
| 6 | Teri and Greg (no last name provided) | 1/30/2017 |

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

Letter 1 – California Department of Fish and Wildlife, received January 4, 2017.

LETTER 1

From: [Steven Banks](#)
To: [Chris Stabenfeldt](#)
Cc: [Dorienne Mendoza](#)
Subject: FW: Comments on the Mitigated Negative Declaration (MND) for the Parkway Apartments Project (SCH#2016122056)
Date: Wednesday, January 11, 2017 9:40:53 AM
Attachments: [image003.png](#)
[image004.png](#)

FYI

From: Sheya, Tanya@Wildlife [mailto:Tanya.Sheya@wildlife.ca.gov]
Sent: Wednesday, January 04, 2017 8:57 AM
To: Steven Banks
Cc: Wildlife R2 CEQA
Subject: Comments on the Mitigated Negative Declaration (MND) for the Parkway Apartments Project (SCH#2016122056)

Dear Mr. Banks:

The California Department of Fish and Wildlife (CDFW) has reviewed the Mitigated Negative Declaration (MND) for the Parkway Apartments Project (SCH#2016122056). The project is located at the southwest corner of Blue Ravine Road and Oak Avenue in Folsom, CA; APN 071-1240-001. The project includes the construction of a 72 unit apartment complex on 4.15 acres of a 10-11-acre project site. The project would total 74, 874 square feet of living space with associated access road, parking and landscaping.

As a trustee for California's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Fish & G. Code, § 1802). CDFW may also act as a Responsible Agency (Cal. Code Regs., § 21069) for a project where it has discretionary approval power under the California Endangered Species Act (Fish & G. Code, § 2050 et seq.) and the Lake and Streambed Alteration Program (Fish & G. Code, § 1600 et seq.). CDFW also administers the Native Plant Protection Act, Natural Community Conservation Program, and other provisions of the Fish and Game Code that afford protection to California's fish and wildlife resources.

CDFW offers the following comments and recommendations for this project in our role as a trustee and responsible agency pursuant to the California Environmental Quality Act (CEQA).

Deferred Mitigation

CEQA Guidelines §15126.4 (a)(1)(B) states that formulation of mitigation measures should not be deferred until some future time. The CDFW is concerned with BIO-3, which states that: *"The owner/applicant shall obtain permits pertaining to Section 404 and 401 of the federal Clean Water Act and Section 1600 of the California Fish and Game Code. The owner/project applicant shall provide evidence that said permits have been obtained, or that the permit is not required, subject to staff review and approval of any grading or improvement plan."* This measure relies on future approvals or agreements as a means to bring identified significant environmental effects to below a level of significance. Because there is no guarantee that these approvals or cooperation with all of the involved entities will ultimately occur, the mitigation measure is unenforceable and does not reduce

1-1

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the impacts to biological resources to a less-than-significant level.

Mitigation measures should establish performance standards to evaluate the success of the proposed mitigation, provide a range of options to achieve the performance standards, and must commit the lead agency to successful completion of the mitigation. Mitigation measures should also describe when the mitigation measure will be implemented, and explain why the measure is feasible. Therefore, the CDFW recommends that the MND include measures that are enforceable and do not defer the details of the mitigation to the future.

1-1
(cont'd)

Jurisdictional Delineation and Wetlands

According to the MND, riparian areas are located on the project site and will be impacted by the proposed project. The MND should identify all the areas under CDFW's jurisdiction per section 1602 of the Fish & G. Code. These areas include all perennial, intermittent, and ephemeral rivers, streams, and lakes, including ponds and drainages, in the State and any habitats supported by these features such as wetlands and riparian habitats. If these jurisdictional features are found within the Project limits or its vicinity, the MND should identify any potential impacts to these resources. The MND should include a delineation of lakes, streams, and associated habitat that will be temporarily and/or permanently impacted by the proposed Project including an estimate of impact to each habitat type. Please note that the CDFW definition of wetlands as well as extent of the jurisdictional areas differ from other agencies such as the U.S. Army Corps of Engineers or the Regional Water Quality Control Board. The MND should identify the different jurisdictional areas present within the Project limits under each agency.

1-2

If it is determined that the Project would impact areas under CDFW's jurisdiction the MND must propose mitigation measures to avoid, minimize, and mitigate impacts to these resources.

Thank you for considering our concerns for the proposed project and providing the opportunity to comment. I am available for consultation regarding biological resources and strategies to minimize impacts. If you have questions please contact me by e-mail at Tanya.Sheya@wildlife.ca.gov or by phone at (916) 358-2953.

Tanya Sheya

Environmental Scientist

cid:image001.png@01D060CD.D0FF5160



North Central Region | Habitat Conservation
1701 Nimbus Road | Rancho Cordova CA 95670
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Tanya.Sheya@wildlife.ca.gov

Every Californian should conserve water. Find out how at:

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Letter 1 Responses to Comments

Response to Comment 1-1:

Comment Noted. The City of Folsom disagrees with the comment that Mitigation Measure (MM) BIO-3 is deferred mitigation. As described in the Draft IS/MND, a wetland delineation was conducted in 2012 and identified 0.489-acre Waters of the U.S. to be impacted by the Proposed Project, consisting of 0.454 acre of riparian wetland and 0.035 acre of seasonal wetland swale. Since the time of that determination, no on-site changes to the physical landscape have occurred nor have there been any changes to the delineating factors that would change this determination. The applicant/owner is requesting authorization from the U.S. Army Corps of Engineers (USACE) under Nationwide Permit (NWP) No. 29 (Residential Development) to permanently impact Waters of the U.S. In addition, a Water Quality Certification would be required by the Central Valley Regional Water Quality Control Board (RWQCB). Furthermore, impacts to riparian vegetation would be authorized through a Notification of Lake or Streambed Alteration for the proposed impacts to CDFW-jurisdictional features. The project applicant/owner is currently preparing applications for both the Water Quality Certification and Notification of Lake or Streambed Alteration.

MM BIO-3 ensures that the applicant/owner cannot move forward with any phase or component of project construction that involves impacting drainages, or wetlands through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification to a jurisdictional feature unless the previously described permits are obtained. In order to provide clarity, MM BIO-3 text has been revised to include the text shown below in the strike-add format describing measures that could be developed as part of the permitting process. The exact measures will be described in detail as part of the conditions of the permit approval by the regulating agencies including USACE, Central Valley RWQCB, and CDFW.

The revisions are provided below and in Section 4. Revisions to the Draft Initial Study and Mitigated Negative Declaration. Changes in text are identified by ~~strikeout~~ where text is removed and by underline where text is added.

BIO-3 Comply with Clean Water Act and California Fish and Game Code

Prior to the construction of any phase or component of the Proposed Project that involves impacting drainages, or wetlands through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification to a jurisdictional drainage, a jurisdictional delineation shall be conducted. Any jurisdictional impacts will require the owner/applicant shall to obtain permits pertaining to Section 404 and 401 of the federal Clean Water Act and Section 1600 of the California Fish and Game Code, from the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Central Valley Region Regional Water Quality Control Board (RWQCB) before any development can commence. Project specific mitigation for impacts to features jurisdictional to state and federal agencies will be determined during the wetland permitting process. Mitigation could include land conservation and management in perpetuity, on-site habitat enhancement and restoration, payment of in-lieu fees to authorized conservation organizations, or a combination of these measures. The owner/project applicant shall provide evidence that said permits have been obtained, or that the permit is not required, prior to staff review and approval of any grading or improvement plan.

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Response to Comment 1-2:

Comment noted. Page 4-16 of the Draft IS/MND, Section 4.4.1 Environmental Setting describes the project site as dominated by nonnative annual grassland with inclusions of riparian vegetation associated with the seasonal wetland swale along the northwestern edge of the site, the riparian wetlands in the northern portion of the site, and Humbug Creek that runs through the middle of the site. As previously described in Response to Comment 1-1, the applicant/owner is currently preparing an application for a Notification of Lake or Streambed Alteration in support of the Proposed Project per CDFW's Section 1602 of the Fish and Game Code. An additional figure has been added to Section 4.4 Biological Resources of the Draft IS identifying proposed wetland impacts that would occur with implementation of the Proposed Project (see Section 4. Revisions to the Draft Initial Study and Mitigated Negative Declaration).

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Letter 2 – Central Valley Regional Water Quality Control Board,
received January 17, 2017.

LETTER 2



Central Valley Regional Water Quality Control Board

17 January 2017

Steve Banks
City of Folsom
50 Natoma Street
Folsom, CA 95630

CERTIFIED MAIL
91 7199 9991 7035 8417 7969

**COMMENTS TO REQUEST FOR REVIEW FOR THE MITIGATED NEGATIVE
DECLARATION, THE PARKWAY APARTMENTS PROJECT, SCH# 2016122056,
SACRAMENTO COUNTY**

Pursuant to the State Clearinghouse's 23 December 2016 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Mitigated Negative Declaration* for the Parkway Apartments Project, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases,

KARL E. LONGLEY ScD, P.E., CHAIR | PAMELA C. CREEDON P.E., BCEE, EXECUTIVE OFFICER

11020 Sun Center Drive #200, Rancho Cordova, CA 95670 | www.waterboards.ca.gov/centralvalley



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the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

2-1
10001 d1

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/.

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Policy is available on page IV-15.01 at:
http://www.waterboards.ca.gov/centralvalleywater_issues/basin_plans/sacsjr.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

2-2

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan

2-3

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(SWPPP).

2-3
(cont'd)

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits¹

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

2-4

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ.

2-5

For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water

2-6

¹ Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

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drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

2-6
(cont'd)

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

2-7

Waste Discharge Requirements – Discharges to Waters of the State

If USACOE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

2-8

For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Risk General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Risk Waiver) R5-2013-0145. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

2-9

For more information regarding the Low Risk General Order and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Risk Waiver and the application process, visit the Central Valley Water Board website at:

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http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2013-0145_res.pdf

Regulatory Compliance for Commercially Irrigated Agriculture

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/app_oval/index.shtml; or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov. 2-10

2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100.** Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently \$1,084 + \$6.70/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov. 2-11

Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits. 2-12

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For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of the waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit.

2-13

For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit3.shtml

If you have questions regarding these comments, please contact me at (916) 464-4644 or Stephanie.Tadlock@waterboards.ca.gov.

Stephanie Tadlock

Stephanie Tadlock
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

Letter 2 Responses to Comments

Response to Comment 2-1:

The City of Folsom acknowledges that the Central Valley Regional Water Quality Control Board (RWQCB) is a responsible agency for this project as defined by CEQA and is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 12240 of the Porter- Cologne Water Quality Control Act. The Central Valley RWQCB is responsible for proposed projects within Sacramento County.

Response to Comment 2-2:

As indicated on page 4-62 of Section 4.9 Hydrology and Water Quality of the Draft IS/MND, question a), the Proposed Project is subject to requirements of the statewide National Pollutant Discharge Elimination System (NPDES) storm water permit for discharges from construction activities (Construction General Permit). The Draft IS discloses that this permit would require the City of Folsom to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) listing BMPs to prevent construction pollutants and products from violating water quality standards or waste discharge requirements. The NPDES Construction Storm Water General Permit, including development and implementation of a SWPPP, is also included in Table 3. Regulatory Requirements, Permits, and Approvals on page 1-7 of the Draft IS/MND.

Additionally, as described in the Draft IS in Section 4.19 Utilities and Service Systems, question a), the Proposed Project would not exceed wastewater treatment requirements. The City's wastewater is treated at the SRCSD regional wastewater treatment plant. The SRCSD is in the process of constructing upgrades to the SRWTP (EchoWater Project) to meet more stringent discharge requirements issued by the RWQCB. Wastewater from the project would be treated in compliance with the RWQCB discharge requirements.

Response to Comment 2-3

See Response to Comment 2-2.

Response to Comment 2-4:

The City of Folsom will comply with the Sacramento County Phase II Municipal Storm Water Permit (MS4 Phase II permit) requirements. As such, the Proposed Project design complies with the requirements of Sacramento County's MS4 Phase II Permit. As stated in Response to Comment 2-2 and on page 4-62 of Section 4.9 Hydrology and Water Quality of the Draft IS/MND, item a), the City of Folsom is required to prepare a SWPPP listing BMPs to prevent construction pollutants and products from violating water quality standards or waste discharge requirements. Specific LID/post-construction BMPs shall be implemented as required by the MS4 Phase II permit.

Response to Comment 2-5

The Proposed Project consists of a seventy-two (72) unit apartment complex and is not located within an industrial site. See Response to Comment 2-2.

The Parkway Apartments Project
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Response to Comment 2-6

As described on page 4-40 of Section 4.4 Biological Resources of the Draft IS/MND, question b) The Proposed Project would permanently impact (fill) 0.489-acre of Waters of the U.S., consisting of 0.454 acre of riparian wetland and 0.035 acre of seasonal wetland swale. Currently, the project applicant is requesting authorization from the USACE under Nationwide Permit (NWP) No. 29 (Residential Development) to permanently impact Waters of the United States.

Response to Comment 2-7

See Response to Comment 2-6. A Water Quality Certification would be required by the Central Valley RWQCB and impacts to riparian vegetation would be authorized through a Notification of Lake or Streambed Alteration for the current proposed impacts to CDFW-jurisdictional features. The project applicant is currently preparing applications for both the Water Quality Certification and Notification of Lake or Streambed Alteration.

Response to Comment 2-8

See Response to Comment 2-6. The applicant/owner is requesting authorization from the USACE under NWP No. 29. A Waster Discharge Requirement is not needed.

Response to Comment 2-9

The Proposed Project does not include groundwater dewatering during construction therefore, a dewatering permit is not applicable to this project.

Response to Comment 2-10

The Proposed Project consists of a seventy-two (72) unit apartment complex. Commercial agriculture is not proposed as part of the project; therefore, the project is not required to obtain regulatory coverage under the Irrigated Lands Regulatory Program.

Response to Comment 2-11

See Response to Comment 2-10.

Response to Comment 2-12

See Response to Comment 2-2. NPDES Construction Storm Water General Permit, including development and implementation of a SWPPP will be obtained prior to construction of the Proposed Project.

Response to Comment 2-13

See Response to Comment 2-2. NPDES Construction Storm Water General Permit, including development and implementation of a SWPPP will be obtained prior to construction of the Proposed Project.

The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration

Letter 3 – Sacramento Municipal Utilities District, received January 20, 2017.

LETTER 3

Powering forward. Together.



January 20, 2017

Steven Banks
City of Folsom
Community Development Department
50 Natoma Street
Folsom, CA 95630
sbanks@folsomca.us

Subject: The Parkway Apartments Project (Clearinghouse No. 2016122056)

Dear Mr. Banks:

The Sacramento Municipal Utility District (SMUD) appreciates the opportunity to provide comments on the Initial Study/Mitigated Negative Declaration (IS/MND) for the Parkway Apartments Project (Project). SMUD is the primary energy provider for Sacramento County and the proposed Project area. SMUD's vision is to empower our customers with solutions and options that increase energy efficiency, protect the environment, reduce global warming, and lower the cost to serve our region. As a Responsible Agency, SMUD aims to ensure that the proposed Project limits the potential for significant environmental effects on SMUD facilities, employees, and customers.

SMUD has three 230kV overhead transmission circuits located on the proposed Project area, as depicted in the Project IS/MND. To that end, it is our desire that the Parkway Apartments Project IS/MND will acknowledge any Project impacts related to the following:

- Overhead and or underground transmission and distribution line easements. Please view the following links on smud.org for more information regarding transmission encroachment:
 - <https://www.smud.org/en/business/customer-service/support-and-services/design-construction-services.htm>
 - <https://www.smud.org/en/do-business-with-smud/real-estate-services/transmission-right-of-way.htm>
- Utility line routing
- Electrical load needs/requirements
- Energy Efficiency
- Climate Change

3-1

Based on our review of the Initial Study and our understanding of the proposed Project, SMUD offers the following input for your consideration:

1. Project Description: SMUD would like to be informed of any anticipated Project related impacts on existing or future SMUD facilities. It is important that information regarding potential impacts to SMUD facilities in the vicinity of the proposed Project

3-2

SMUD HQ | 6201 S Street | P O Box 15830 | Sacramento, CA 95852-0830 | 1.888.742.7683 | smud.org

**The Parkway Apartments Project
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- be contained in the Project description chapter of the IS/MND, as well as the existing conditions discussion of the utilities, hazards and hazardous materials, and cumulative impact sections. 3-2 (cont'd)
2. Energy Delivery (Capacity): Please continue to coordinate with SMUD staff regarding the proposed energy delivery assumptions associated with the proposed Project site. The IS/MND should provide analysis regarding SMUD's ability to handle the Project's anticipated energy needs. SMUD is looking forward to partnering with the City to ensure that the Project is designed in an energy efficient and sustainable way. 3-3
3. Energy Delivery (Infrastructure): The IS/MND should provide an analysis of the proposed on-site and off-site energy infrastructure improvements needed to construct and operate the proposed Project. The IS/MND should clearly delineate the responsibilities of SMUD and the City of Folsom, as it pertains to infrastructure improvements. 3-4
4. Planning and CEQA Considerations: As a Responsible Agency, SMUD requests that the following issues be considered during the Project design and planning and any associated impacts be considered in the IS/MND. 3-5
- All structural setbacks shall be a minimum of 14-feet from the edge of the roadway right-of-way. Structural setbacks less than 14-feet may create clearance issues with SMUD facilities and the facilities of other utilities.
 - The Applicant shall not place any building foundations within 5-feet of any SMUD trench to maintain adequate trench integrity. The Applicant shall verify specific clearance requirements for other utilities (e.g., Gas, Telephone, etc.).
 - Proposed SMUD facilities located on the customer's property outside of the existing or proposed PUE(s) may require a dedicated SMUD easement.
 - The Applicant shall dedicate and provide all-weather vehicular access for service vehicles that are up to 26,000 pounds. At a minimum: (a) the drivable surface shall be 20-feet wide; and (b) all SMUD underground equipment and appurtenances shall be within 15-feet from the drivable surface.
 - The Applicant shall dedicate a 12.5-foot public utility easement for underground facilities and appurtenances adjacent to all public street rights-of-ways.
 - The Applicant shall dedicate any private drive, ingress and egress easement, or Irrevocable Offer of Dedication (and 10-feet adjacent thereto) as a public utility easement for (overhead and) underground facilities and appurtenances. All access roads shall meet minimum SMUD requirements for access roads.
5. Transmission Considerations: The following comments pertain to the design and construction requirements around SMUD's transmission right-of-ways. 3-6
- The Applicant is to refer to the Guide for Transmission Encroachment for acceptable practices near SMUD owned transmission line facilities. Any deviations from the guide must be given written approval by the SMUD Transmission & Distribution Line Engineering department.
 - SMUD reserves the right to use any portion of its easements on or adjacent to the subject property that it reasonably needs and shall not be responsible

SMUD HQ | 6201 S Street | P.O. Box 15830 | Sacramento, CA 95852-0830 | 1 866 742 7683 | smud.org

The Parkway Apartments Project Final Initial Study and Mitigated Negative Declaration

for any damages to the developed property within said easement that unreasonably interferes with those needs.

- All above ground metallic facilities proposed within the SMUD easement must be properly grounded. Grounding plans should be stamped by a California licensed electrical engineer, meet all National Electric Safety Code requirements, and be submitted to SMUD for review.
- The Project Owner or contractor is responsible for assessing any impacts (including but not limited to induced voltage and current effects) to its facilities as a result of constructing and operating their facilities within close proximity to SMUD's high voltage transmission lines.
- Submitted plans on Figure 9, the Landscape Master Plan, show that many trees will be planted in the SMUD easement with mature heights above 15-feet. Light standards, trees (at mature height), landscaping, fences, and equipment shall not exceed a height of 15-feet within the SMUD easement.
- Any excavation or construction activities within a 25-foot radial distance of any SMUD transmission structure will require the presence of a SMUD construction inspector to witness construction activities.
- There shall be no storage of fuel or combustibles and no fueling of vehicles within the SMUD easement.
- There shall be no long term staging or storage of construction materials within the SMUD easement, such materials shall be removed from the easement at the completion of the Project.
- All boom-operated construction equipment within SMUD's easement corridor shall be equipped with a mechanical lock-out device to prevent the boom from extending above the Cal-OSHA required clearance distance to SMUD's energized high voltage lines and fiber optic communication lines.
- The Applicant shall add the following note to Project drawings:

WARNING – SMUD OVERHEAD TRANSMISSION LINES ARE LIVE – Electrocutation Potential. Project owner or Contractor shall take all appropriate safety measures when working near or under lines, including placement of OSHA-required warning signage. On-site SMUD inspection required when working within 25-feet of SMUD facilities. Contractor shall contact SMUD's Construction Management Inspection at (916) 732-5905 or (916) 799-5733 to schedule inspection. 72-hour advance notice is required. Project owner or Contractor shall protect SMUD facilities during construction and notify SMUD immediately if facilities are damaged. Any damage to existing facilities shall be repaired at the Project owner or contractor's expense.

- The Project Owner or contractor is responsible for ensuring that any subcontractor performing work in the subject right of way is aware of and abides by these conditions.
- Any deviations or revisions to the plans as submitted shall be brought to the attention of SMUD's Real Estate Department.

3-6
(cont'd)

The Parkway Apartments Project Final Initial Study and Mitigated Negative Declaration

For additional information please visit our website and review our Guide for Transmission Encroachment: <https://www.smud.org/assets/documents/pdf/Guide-for-Transmission-Encroachment.pdf>.

SMUD would like to be involved with discussing and resolving the above issues as well as discussing any other potential issues. We aim to be partners in the efficient and sustainable delivery of the proposed Parkway Apartments Project. Please ensure that the information included in this response is conveyed to the project planners and the appropriate project proponents.

Environmental leadership is a core value of SMUD and we look forward to collaborating with you on this Project. Again, we appreciate the opportunity to provide input on this IS/MND. If you have any questions regarding this letter, please contact Ammon Rice, SMUD Environmental Specialist, at ammon.rice@smud.org or (916)732-7466.

Sincerely,



Angela C. McIntire
Regional & Local Government Affairs
Sacramento Municipal Utility District
6201 S Street, Mail Stop A313
Sacramento, CA 95817
angela.mcintire@smud.org

Cc: Ammon Rice, SMUD

The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration

Letter 3 Responses to Comments

Response to Comment 3-1:

Comment noted. As depicted on Figure 8. Grading and Drainage Plan in the Draft IS, proposed structures associated with the project are located over 150 feet from the 200 foot SMUD easement for the 230 kV overhead transmission-right-of way located on the eastern portion of the property. The site access driveway and the proposed trail would encroach into the easement but these are allowed uses. The City and applicant will work with SMUD to ensure that any improvements with the easement are constructed in compliance with the provisions of the easement.

As described in Draft IS, Section 4.19 Utilities and Service systems, the City of Folsom has a project review / design process that includes coordination with potentially affected utilities as part of project development. Impacts related to utilities and service systems were determined to be less than significant. The City recognizes that SMUD is the primary energy provider for Sacramento County and the Proposed Project site and will continue to inform and coordinate with SMUD for any needed infrastructure improvements related to construction and/or operation of the proposed project

Response to Comment 3-2:

Comment noted. No existing or future SMUD facilities would be impacted as a result of the Proposed Project.

As described in Draft IS, Section 4.19 Utilities and Service systems, the City of Folsom has a project review / design process that includes coordination with potentially affected utilities as part of project development. Identifying and accommodating existing utilities is part of the design process, and utilities are considered when finalizing project plans. The City of Folsom coordinates with the appropriate utility companies to plan and implement any needed accommodation of existing utilities, including water, sewer, telephone, gas, electricity and cable television lines. All utility connections would occur within the project site or adjacent to the project site at existing utilities in Blue Ravine Road. The Draft IS analyzed potential impacts to utilities and service systems and concluded that impacts would be less than significant.

Response to Comment 3-3

Comment noted. Please see Responses to Comments 3-1 and 3-2. The City and project applicant will coordinate with SMUD staff regarding the proposed energy delivery assumptions associated with the Proposed Project.

Response to Comment 3-4

Comment noted. Please see Responses to Comments 3-1 and 3-2.

Response to Comment 3-4

Please see Responses to Comments 3-1 and 3-2.

Response to Comment 3-6

Please see Responses to Comments 3-1 and 3-2.

The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration

Letter 4 – Office of Planning and Research, received January 24, 2017.

LETTER 4



EDMUND G. BROWN, JR.
GOVERNOR

STATE OF CALIFORNIA

GOVERNOR'S OFFICE of PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



KEN ALEX
DIRECTOR

January 24, 2017

Steve Banks
City of Folsom
50 Natoma Street
Folsom, CA 95630

Subject: The Parkway Apartments Project
SCH#: 2016122056

Dear Steve Banks:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on January 23, 2017, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

The Parkway Apartments Project Final Initial Study and Mitigated Negative Declaration

Document Details Report State Clearinghouse Data Base

SCH# 2016122056
Project Title The Parkway Apartments Project
Lead Agency Folsom, City of

Type MND Mitigated Negative Declaration
Description The project applicant is requesting a planned development permit from the city for a 72 unit apartment complex with 18 one bedroom units with 754 sf units, 36 two bedroom units with 1,073 and 1,024 sf units and 18 three bedroom units with 1,276 sf units on a 4.15 acre portion of the 10.11 acre project site. The density of the proposed project would be seven units/acre and would total 74,874 sf of living space in the proposed 72 units. The proposed project would be 100% affordable with rents ranging from 30-60% area median income. The project would be deed restricted for 55 years and would be financed using federal low income housing tax credits, conventional debt, local financing, and developer equity.

Lead Agency Contact

Name Steve Banks
Agency City of Folsom
Phone (916) 355-7222
email
Address 50 Natoma Street
City Folsom
State CA **Zip** 95630
Fax

Project Location

County Sacramento
City Folsom
Region
Lat / Long 38° 26' 11.7" N / 120° 34' 15.7" W
Cross Streets Blue Ravine Rd and Oak Ave Parkway
Parcel No. 071-1240-001
Township 10N **Range** 8E **Section** 31 **Base** MDBM

Proximity to:

Highways SR 50
Airports
Railways
Waterways Humbug Creek
Schools Oak Chan ES
Land Use

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 2; Department of Parks and Recreation; Department of Water Resources; Caltrans, District 3 S; Department of Housing and Community Development; Regional Water Quality Control Bd., Region 5 (Sacramento); Department of Toxic Substances Control; Native American Heritage Commission

Date Received 12/23/2016 **Start of Review** 12/23/2016 **End of Review** 01/23/2017

Note: Blanks in data fields result from insufficient information provided by lead agency.

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

Letter 4 Responses to Comments

This letter acknowledges that the City has complied with the State Clearinghouse review requirements for draft environmental documents and does not require a response.

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

Letter 5 – Bill Bryant, received January 26, 2017.

LETTER 5

From: [Chris Stabenfeldt](mailto:Chris.Stabenfeldt)
To: [Dorienne Mendoza](mailto:Dorienne.Mendoza)
Subject: FW: The Parkway Apartments Project (PN 16-171) Update
Date: Friday, January 27, 2017 9:55:39 AM

Keep this email with the comment letters and the extension email. Thanks.

Chris Stabenfeldt | Senior Environmental Planner | 916.782.9100 | www.ecorpcconsulting.com

From: Steven Banks [mailto:sbanks@folsom.ca.us]
Sent: Thursday, January 26, 2017 4:07 PM
To: Chris Stabenfeldt
Subject: FW: The Parkway Apartments Project (PN 16-171) Update

FYI

From: Bill Bryant [mailto:w.p.bryant@comcast.net]
Sent: Thursday, January 26, 2017 4:07 PM
To: Steven Banks
Cc: Undisclosed
Subject: RE: The Parkway Apartments Project (PN 16-171) Update

Hi Steve,

What format is to be used to provide public comment on the quality of the Noise study (Appendix D) of the environmental document submitted for the Neg Dec on PN 16-171?

| 5-1

No mention of Mather Cargo Airfield and 3, 10 min long noise measurements in Table 2, two of which have 61, 62, 68, & 68 Leq's. Totally unreal!

| 5-2

Bill Bryant

From: Steven Banks [mailto:sbanks@folsom.ca.us]
Sent: Thursday, January 26, 2017 2:14 PM
To: Patkurlej@yahoo.com; Ths.connie@gmail.com; Amloewen2@hotmail.com; Freitash47@gmail.com; B_bernardin@hotmail.com; Jkthomas1013@sbcglobal.net; Fifecat75@yahoo.com; Betsyjolene@gmail.com; Dave.Kilborn@att.net; Rickerolwilliams007@comcast.net; A67auto@gmail.com; 8cheriblue@gmail.com; Jason 2 (jason_finnicum@yahoo.com) <jason_finnicum@yahoo.com>; Mmattsso67@gmail.com; Klwpnp@comcast.net; Kptedrow@yahoo.com; Cassandra@hahevarcia.com; Bbostrander@gmail.com; Jkinnicv@yahoo.com; Folsomjack8744@gmail.com; Pauljhom@gmail.com; Daniel@danielguitar.com; Mccarthyjem@comcast.net; Vickicm@hotmail.com; Fmi81b@sbcglobal.net; Bashane64@icloud.com; Kerry985@hotmail.com; Herbsx2@aol.com; Mifkovic@sbcglobal.net; Teriandgreg@gmail.com; alisonhelquist@gmail.com; anthony.holly@gmail.com; w.p.bryant@comcast.net
Subject: The Parkway Apartments Project (PN 16-171) Update

Good afternoon all,

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

Thank you for taking the time to attend the Parkway Apartments neighborhood outreach meeting on Monday evening facilitated by the project applicant (Pacific West Communities). I apologize in advance if not all in attendance at the meeting receive this communication as some of the email addresses were difficult to decipher. Based on the feedback provided by residents in the community, City staff has made the decision to extend the public comment period regarding the environmental document (Initial Study and Mitigated Negative Declaration) prepared for the proposed project to February 15, 2017. The following is a link to the environmental document:

http://www.folsom.ca.us/city_hall/depts/community/planning/projects/default.asp. It is important to note that the City will continue to receive public comments regarding the project but not related to the environmental document up until the Planning Commission hearing date of March 15, 2017. It is my understanding that the project applicant will be sponsoring another neighborhood outreach meeting sometime in mid-February. I will forward that information to you as soon as it becomes available. In the meantime, feel free to contact me directly if you have any further questions or comments regarding the proposed apartment project.

Best regards,

Steve

Steve Banks
Principal Planner
City of Folsom
sbanks@folsom.ca.us
(916) 355-7385

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

Letter 5 Responses to Comments

Response to Comment 5-1:

Comment noted.

Response to Comment 5-2:

Comment noted. As described in Section 4.12 Noise of the Draft IS, 72 hour noise measurements in Table 11 did include noise associated with overflights from Mather. However, the main source of noise in the vicinity of the project site was traffic noise on Blue Ravine Road. As stated in the Draft IS/MND with implementation of Mitigation Measure N-1, impacts would be less than significant.

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

Letter 6 – Teri and Greg (no last name provided), received January 30 2017.

LETTER 6

From: [Chris Stabenfeldt](mailto:Chris.Stabenfeldt@ecorpconsulting.com)
To: [Dorienne Mendoza](mailto:Dorienne.Mendoza@ecorpconsulting.com)
Subject: FW: The Parkway Apartments Project (PN 16-171) Update
Date: Wednesday, February 01, 2017 10:14:08 AM

Please save to the project folder. Thanks.

Chris Stabenfeldt | Senior Environmental Planner | 916.782.9100 | www.ecorpconsulting.com

From: Steven Banks [<mailto:sbanks@folsom.ca.us>]
Sent: Wednesday, February 01, 2017 8:23 AM
To: Chris Stabenfeldt
Subject: FW: The Parkway Apartments Project (PN 16-171) Update

FYI

From: TeriandGreg [<mailto:teriandgreg@gmail.com>]
Sent: Monday, January 30, 2017 11:18 AM
To: Steven Banks
Subject: Re: The Parkway Apartments Project (PN 16-171) Update

Hello Steve,

Thank you for reaching out to us. As you are probably aware, we are very concerned that the traffic study was done during summer break and school was *not* in session (that goes for Elementary School, High School and College. Because of this, I do not believe that the study gives a true example of the traffic in the area of Oak and Blue Ravine, Blue Ravine and Flower, Blue Ravine and Parkway/Jorgenson, and Oak Avenue and North Lexington.

From the meeting, we were told they were going to go back out and only do retest on the peak periods. Again, this is not an accurate measure for that area. Please note the school times that should be taken in account and will affect all locations in that area.

Folsom Middle school hours are from 8:45 am to 3:30 pm M-Thurs, 8:45-2:05 on Fridays
Blanche Sprentz hours are 8:25 am to 1:52 and 8:25 am to 2:37pm
Oak Chans hours are 7:52am to 2:38 pm
Folsom Lake College classes run throughout the day.

An accurate measure would still be the peak hours as well as other times such as 11:30 am to 1:30 pm and from 2:00 pm to 4:00 pm to account for traffic to pick up student from both of the elementary school and junior high schools (kid traffic riding/walking home).

I would like also point out the length of the study is not an accurate study as well. Per an article by Yarger Engineering Inc ([click here](#)) states that a study should take "typically one week per intersection for straight forward studies". The reports of the study that is posted on your Folsom website, done by MRO Engineers conducted AP and PM peak periods only for one day, Tuesday August 2, 2016 is not an adequate test for that area. In reviewing the Caltrans, if the company will only go back and do the peak hours again, the should consider other peak times eg, 11:30-1:30 pm as well when schools in the area get out and rush hour. Because this area is already fairly populated, traffic is already a concern and adding 200 + more cars creates a real safety hazard for cars, and people walking/biking. Last year a student

6-1

6-2

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

was hit in the intersection of Oak and Blue Ravine.

6-2
(cont'd)

During the meeting, we were told that 15 years ago this land was zoned for multifamily-affordable housing. As you know and I know, there has been a lot of growth in Folsom, a lot of single family homes and multifamily homes have been increased in the last 5 years. The growth has brought on more traffic along Blue Ravine. Your study predictions in 2011 Project Number: 07110105.02 showed the traffic volume for Oak and Blue Ravine will be 28,600 with speeds of 50 MPH.

6-3

Having a dense populated community being built on the corner of Blue Ravine and Oak is not an ideal place. I hope you will take this information in account when reviewing the proposed complex. Besides the traffic we are concerned with our home values and added crime.

6-4

On Thu, Jan 26, 2017 at 2:14 PM, Steven Banks <sbanks@folsom.ca.us> wrote:
Good afternoon all,

Thank you for taking the time to attend the Parkway Apartments neighborhood outreach meeting on Monday evening facilitated by the project applicant (Pacific West Communities). I apologize in advance if not all in attendance at the meeting receive this communication as some of the email addresses were difficult to decipher. Based on the feedback provided by residents in the community, City staff has made the decision to extend the public comment period regarding the environmental document (Initial Study and Mitigated Negative Declaration) prepared for the proposed project to February 15, 2017. The following is a link to the environmental document:

http://www.folsom.ca.us/city_hall/depts/community/planning/projects/default.asp. It is important to note that the City will continue to receive public comments regarding the project but not related to the environmental document up until the Planning Commission hearing date of March 15, 2017. It is my understanding that the project applicant will be sponsoring another neighborhood outreach meeting sometime in mid-February, I will forward that information to you as soon as it becomes available. In the meantime, feel free to contact me directly if you have any further questions or comments regarding the proposed apartment project.

Best regards,

Steve

Steve Banks
Principal Planner
City of Folsom
sbanks@folsom.ca.us
[\(916\) 355-7385](tel:9163557385)

--
-Greg and Teri Turner

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

Letter 6 Responses to Comments

Response to Comments 6-1:

Comment noted. A Revised Draft Traffic Impact Analysis (Attachment A) has been prepared in response to comments received at the Community Meeting on January 23, 2017. Consistent with the adopted City of Folsom Traffic Study guidelines, the study evaluates weekday AM and PM peak hour traffic operations in the vicinity of the project site under the following scenarios:

- Existing Conditions,
- Construction Year No Project Conditions,
- Construction Year Plus Project Conditions,
- Cumulative No Project Conditions, and
- Cumulative Plus Project Conditions.

Included within this revised report are the following modifications:

- Updated AM peak-period turning movement counts were performed at the five study intersections on January 24, 2017, a typical school day;
- Updated level of service calculations were performed at the study intersections;
- A new radar speed survey was performed on Blue Ravine Road in the vicinity of the project site;
- Accident data (2014 - 2016) was acquired from the City of Folsom for the intersections of Blue Ravine Road/Oak Avenue Parkway and Blue Ravine Road/Flower Drive; and
- A revised project access plan under which both project driveways would be restricted to right-turns-only has been proposed.

Impacts of the project were evaluated at five key intersections in the immediate vicinity of the project site. In addition, the project's proposed access driveways were evaluated with respect to their ability to serve the Proposed Project safely and effectively. AM peak-period turning movement counts for the five Parkway Apartments study intersections were taken on January 24, 2017. A comparison of those volumes and the August 2, 2016 volumes has been updated and incorporated into the report (Attachment A). The new volumes as a result of the movement counts are approximately 25 percent higher than the previously reported values. The new total at Oak Avenue Parkway/Willow Creek Drive is almost twice the previous total, although it should be noted that this result is partially due to the fact that the numbers are relatively low. Blue Ravine/Flower and Blue Ravine/Oak Avenue Parkway are both approximately 25 percent higher. Blue Ravine/Jorgensen/Parkway is only about 7 percent higher, while Oak Avenue Parkway/Creekside/N. Lexington is 45 percent higher.

See Section 4 Revisions to the Draft Initial Study and Mitigated Negative Declaration and Attachment A for further detail describing changes to the Draft IS.

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

Response to Comment 6-2

Comment noted. See Response to Comment 6-1 referencing Attachment A. Also updated as part of the revised study are the results of the new radar speed survey conducted on Blue Ravine Road, which determined that the 85th-percentile speed is still 50 miles per hour, equivalent to the previous survey conducted in 2011 to set the speed limit. In addition, as described in Attachment A, over the course of the three-year period, twelve accidents occurred at Blue Ravine Road/Oak Avenue Parkway, with the greatest number (five) in 2016. The most prevalent accident type was broadside collisions, which were often caused by signal violations (i.e., red-light running); five accidents of that type were reported over the three years evaluated. Three accidents involved collisions with fixed objects. In two of those three cases, the driver was found to be under the influence of drugs or alcohol. At Blue Ravine Road/Flower Drive, six accidents were reported from 2014 through 2016. Half of those were rear-end collisions, all of which involved unsafe speed on the part of the "at fault" party. It should be noted that the information provided here represents only accidents that were reported to the Folsom Police Department. Accidents that were not reported are not included. Any such accidents were likely to be minor, however, with property damage only and no injuries.

Furthermore, although data collected comparing the previous and revised delay and level of service (LOS) values for the new traffic volumes demonstrates AM peak hour delays are higher and some of the LOS values are one level worse, the conclusions in the Draft IS/MND are still the same: the project impact is relatively small and no significant impacts will result.

See Section 4 Revisions to the Draft Initial Study and Mitigated Negative Declaration and Attachment A for further detail describing changes to the Draft IS.

Response to Comment 6-3

Comment noted.

Response to Comment 6-4:

Comment noted.

SECTION 4. REVISIONS TO THE DRAFT INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION

4.1 Revisions Provided In Response to Comments Received on the Draft Initial Study and Mitigated Negative Declaration

As a result of comments received on the Draft IS/MND, revisions have been made to the Draft IS/MND text. These revisions include clarification of impacts and minor revisions to mitigation measures, and do not constitute substantial revisions that would require recirculation of the document. A substantial revision according to Section 15073.5 of the 2017 CEQA Guidelines shall mean:

“(1) A new, avoidable significant effect is identified and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or

(2) The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required.”

The revisions are provided below. Changes in text are identified by ~~strikeout~~ where text is removed and by underline where text is added.

-
1. Letter 1, Tanya Sheya, CDFW: Due to comments received, the following text has been revised in the Draft IS on page 4-41 and .
-

Page 4-18 of the Draft IS:

An additional figure has been added to Section 4.4 Biological Resources of the Draft IS identifying proposed wetland impacts that would occur with implementation of the Proposed Project (Figure 10. *Proposed Wetland Impacts*). All subsequent Figures are renumbered accordingly.

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

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**Figure 10.
Proposed Wetland
Impacts**

- Map Features**
- Project Boundary
 - Impact Area
 - Culvert

WATERS OF THE U.S. ACREAGE ¹

| CLASSIFICATION | EXISTING ACREAGE | AVOIDED ACREAGE | IMPACT ACREAGE |
|------------------------|------------------|-----------------|----------------|
| WETLANDS: | | | |
| Riparian Wetland | 0.045 | 0.491 | 0.454 |
| Seasonal Wetland Swale | 0.036 | 0.000 | 0.036 |
| OTHER WATERS: | | | |
| Creek | 1.398 | 1.398 | 0.000 |
| TOTAL: | 2.266 | 1.777 | 0.489 |

¹ Subject to U.S. Army Corps of Engineers's verification



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**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

Page 4-41 of the Draft IS:

BIO-3 Comply with Clean Water Act and California Fish and Game Code

Prior to the construction of any phase or component of the Proposed Project that involves impacting drainages, or wetlands through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification to a jurisdictional drainage, a jurisdictional delineation shall be conducted. Any jurisdictional impacts will require the owner/applicant shall to obtain permits pertaining to Section 404 and 401 of the federal Clean Water Act and Section 1600 of the California Fish and Game Code, from the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Central Valley Region Regional Water Quality Control Board (RWQCB) before any development can commence. Project specific mitigation for impacts to features jurisdictional to state and federal agencies will be determined during the wetland permitting process. Mitigation could include land conservation and management in perpetuity, on-site habitat enhancement and restoration, payment of in-lieu fees to authorized conservation organizations, or a combination of these measures. The owner/project applicant shall provide evidence that said permits have been obtained, or that the permit is not required, subject to staff review and approval of any grading or improvement plan.

-
2. Letter 6, Teri and Greg, Private Citizens: Due to comments received, the following text has been revised on page 5 of the MND and pages 4-85 through 4-93. Appendix E Traffic Assessment has been revised and is appended to this document as Attachment A Revised Draft Traffic Impact Analysis.
-

Page 5 of the Draft MND:

Mitigation Measures

T-1 Traffic Design

The Project applicant shall incorporate the recommendations listed in the Traffic Impact Analysis (TIA) prepared by MRO Engineers into the final design of the Project. Design recommendations include:

- ~~A. The Blue Ravine Road driveway shall align with the existing driveway at the Oak Hills Church on the north side of Blue Ravine Road, in order to avoid vehicular conflicts in the center left turn lane.~~
- ~~B. No turn restrictions are initially necessary at the Blue Ravine Road driveway (i.e., full access is appropriate), although it is recommended that this be monitored to determine whether restrictions on outbound left turns might become necessary as traffic volumes grow on Blue Ravine Road.~~
- A. The easterly nose of the existing raised median on Blue Ravine Road west of the project driveway shall be modified to reflect the configuration illustrated in the TIA.
- B. The Oak Avenue Parkway driveway shall be restricted to right turns only, both inbound and outbound.

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

- C. Both driveways shall have adequate sight distance for entering and exiting drivers. Sight lines to the west of the Blue Ravine Road driveway and to the north of the Oak Avenue Parkway driveway shall not be blocked.
- D. The Blue Ravine Road driveway shall be designed so that exiting vehicles are approximately level as they wait to depart.
- E. STOP-sign control shall be employed at both project driveways.
- F. Both project driveways should be restricted to right turns only, both inbound and outbound.
- G. To ensure the driveway turn restriction is effective at the Blue Ravine Road access location, a raised median should be constructed on Blue Ravine Road connecting the existing median west of the project site with the existing median on the west leg of the Blue Ravine Road/Oak Avenue Parkway intersection.
- H. The intersection of Blue Ravine Road/Oak Avenue Parkway should be modified to allow U-turns on the eastbound approach.

Page 4-85 of the Draft IS:

Existing Traffic Volumes

MRO Engineers, Inc., initially conducted weekday AM and PM peak-period turning movement counts at the study intersections on Tuesday, August 2, 2016. Because those counts were performed just before the start of the 2016 – 2017 school year, updated AM peak-period counts were subsequently performed on January 24, 2017, a typical school day. In consultation with the City of Folsom Traffic Engineer, it was determined that the updated AM peak-hour counts should be used in this analysis, as they were generally higher than the earlier counts, but new PM peak-period counts were not necessary, as minimal school-related traffic occurs in that time period. MRO Engineers conducted weekday AM and PM peak period turning movement counts at the study intersections on Tuesday, 2 August 2016. The counts at all study intersections included pedestrians and bicyclists in addition to motor vehicles. Table 16 summarizes the existing weekday AM and PM peak hour levels of service at the study intersections. All of the study intersections conform to the City of Folsom General Plan policy requirement for operation at a LOS C or better.

**The Parkway Apartments Project
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| Table 16. Existing Conditions | | | | | |
|--|-----------------|----------------------|-----|----------------------|-----|
| Intersection | Traffic Control | Weekday AM Peak Hour | | Weekday PM Peak Hour | |
| | | Delay ¹ | LOS | Delay | LOS |
| Oak Avenue Parkway/Willow Creek Drive | All-way Stop | 8.0 | A | 8.4 | A |
| Blue Ravine Road/Flower Drive | Signal | 7.4 | A | 8.0 | A |
| Blue Ravine Road/Oak Avenue Parkway | Signal | 15.1 | B | 19.34 | B |
| Blue Ravine Road/Jorgensen Road/Parkway Dr. | Signal | 14.3 | B | 15.89 | B |
| Oak Avenue Parkway/Creekside Drive/North Lexington Drive | Signal | 13.0 | B | 16.56 | B |

Notes: ¹ Average control delay (seconds per vehicle).
Source: MRO Engineers 20167

Pages 4-86 of the Draft IS:

Construction Year No Project Conditions

The TIA estimated the volume of peak-hour traffic to be generated by a number of related projects in the vicinity of the Proposed Project, as directed by City of Folsom staff. Table 17 4-17-2 summarizes the results of LOS calculations for the study intersections under the Construction Year No Project conditions. All of the study locations are projected to conform to the City's level of service policy under Construction Year No Project conditions.

| Table 17. Construction Year No Project Conditions | | | | | |
|--|-----------------|-------------------------|-----|-------------------------|-----|
| Intersection | Traffic Control | Weekday AM Peak Hour | | Weekday PM Peak Hour | |
| | | Delay ¹ | LOS | Delay | LOS |
| Oak Avenue Parkway/Willow Creek Drive | All-Way STOP | 8.2 12.5 | A | 8.9 | A |
| Blue Ravine Road/Flower Drive | Signal | 7.6 13.0 | A | 8.3 | A |
| Blue Ravine Road/Oak Avenue Parkway | Signal | 16.4 24.3 | B | 22.0 | C |
| Blue Ravine Road/Jorgensen Road/Parkway Dr. | Signal | 15.9 21.2 | B | 17.8 18.0 | B |
| Oak Avenue Parkway/Creekside Drive/North Lexington Drive | Signal | 13.2 16.6 | B | 17.12 | B |

Notes: ¹ Average control delay (seconds per vehicle).
Source: MRO Engineers 2016

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Page 4-87 of the Draft IS:

| Table 18. Construction Year Plus Project Conditions | | | | | | | | | |
|--|------------------------|------------------------------|------|--------------------------------|-----|------------------------------|------|--------------------------------------|---------------|
| Intersection | Traffic Control | Weekday AM Peak Hour | | | | Weekday PM Peak Hour | | | |
| | | Construction Year No Project | | Construction Year Plus Project | | Construction Year No Project | | Construction Year Plus Project | |
| | | Delay ¹ | LOS | Delay | LOS | Delay | LOS | Delay | LOS |
| Oak Avenue Parkway/Willow Creek Drive | All-Way STOP | 8.2 12.5 | A | 8.2 | A | 8.9 | A | 8.9 | A |
| Blue Ravine Road/Flower Drive | Signal | 7.6 13.0 | A | 7.6 | A | 8.3 | A | 8.3 | A |
| Blue Ravine Road/Oak Avenue Parkway | Signal | 16.4 24.3 | B | 16.5 | B | 22.0 | C | 22.3 | C |
| Blue Ravine Road/Jorgensen Road/Parkway Dr. | Signal | 15.9 21.2 | B | 15.9 | B | 17.8 | B | 17.9 18.1 | B |
| Oak Avenue Parkway/Creekside Drive/North Lexington Drive | Signal | 13.2 16.6 | B | 13.2 | B | 17.1 | B | 17.2 | B |
| Blue Ravine Road/Project Driveway | STOP-Sign ² | N.A. ² | N.A. | 17.2 | C | N.A. | N.A. | 32.7 ³ 13.9 | DB |
| Oak Avenue Parkway/Project Driveway | STOP-Sign ² | N.A. | N.A. | 12.6 | B | N.A. | N.A. | 11.89 | B |

Notes: ¹ Average control delay (seconds per vehicle). ² Not applicable. Intersection does not exist under "no project" conditions. ³ Shaded cell denotes unacceptable level of service.
Source: MRO Engineers 2016

As shown on Table ~~174.17-3~~, the study intersections would operate at a LOS C or better in the AM and PM weekday during construction of the Proposed Project. Therefore, the Proposed Project's impacts during construction are considered less than significant.

~~As shown on Table 174.17-3, the LOS at the Blue Ravine Road/Project Driveway intersection is projected to be LOS D, primarily due to delays associated with the five exiting vehicles waiting to turn left. Although this fails to conform to the City's LOS policy, the Proposed Project driveway would not have the minimum traffic volume necessary to justify installation of a signal. Further, the number of vehicles projected to be at LOS D (i.e., twelve vehicles) is small. If delays are perceived to be excessive, some of these drivers can be expected to alter their trips in order to avoid the problems. For these reasons, traffic impacts are considered less than significant.~~

All of the study intersections would continue to operate at acceptable levels of service under Construction Year Plus Project conditions. Therefore, the project's impact is less than significant and no off-site mitigation measures are needed with the Proposed Project.

Pages 4-88 and 4-89 of the Draft IS:

Cumulative (2035) No Project Conditions

The year 2035 traffic volumes for Cumulative No Project conditions were derived from traffic forecasts developed as part of the Folsom SOI project. Because the SOI traffic projections were not

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prepared on a city-wide basis, that information was used to develop a growth factor, which was applied to the roadway system in the vicinity of the project site. Specifically, the peak-hour traffic volume projections for the intersection of Blue Ravine Road/Oak Avenue Parkway were compared to the existing peak-hour traffic volumes at that location (as documented in the SOI analysis). Table 19.17-4 summarizes the AM and PM peak hour intersection LOS results for Cumulative No Project conditions.

| Intersection | Traffic Control | Weekday AM Peak Hour | | Weekday PM Peak Hour | |
|--|-----------------|---------------------------|-----|----------------------|-----|
| | | Delay ¹ | LOS | Delay | LOS |
| Oak Avenue Parkway/Willow Creek Drive | All-Way STOP | 9.0 16.4 | CA | 9.9 | A |
| Blue Ravine Road/Flower Drive | Signal | 13.3 | CB | 13.67 | B |
| Blue Ravine Road/Oak Avenue Parkway | Signal | 25.2 35.9 ² | DE | 41.32 ² | D |
| Blue Ravine Road/Jorgensen Road/Parkway Dr. | Signal | 31.9 36.1 ² | DE | 33.7 34.3 | C |
| Oak Avenue Parkway/Creekside Drive/North Lexington Drive | Signal | 18.1 26.0 | CB | 25.68 | C |

Notes: ¹ Average control delay (seconds per vehicle). ² Shaded cell denotes unacceptable level of service.
Source: MRO Engineers 2016

As shown Table 19, three of the study intersections will conform to the City's LOS C policy while two locations will be at LOS D, which is considered unacceptable. No project-related change in level of service is projected, and the incremental increases in delay attributable to project-generated traffic will be less than the City's 5.0 seconds per vehicle significance threshold; the maximum project-related delay increment is projected to be 0.8 seconds per vehicle.

The project's Blue Ravine Road access intersection is projected to operate at LOS B, and the project driveway intersection on Oak Avenue Parkway is projected to operate at LOS C in this time period. The traffic volumes at both driveway intersections will be insufficient to meet the Caltrans Peak Hour signal warrant.

Addition of the project-generated traffic in the weekday PM peak hour would result in relatively small increases in intersection delay at each of the study intersections. Although the projected level of service at Blue Ravine Road/Oak Avenue Parkway (LOS D) is worse than LOS C, the project-related delay increase at that location (1.7 seconds per vehicle) is less than the City's significance threshold of 5.0 seconds per vehicle. The other study intersections will operate at acceptable levels of service.

The Blue Ravine Road/Project Driveway intersection will operate at LOS C in the PM peak hour, while the Oak Avenue Parkway driveway intersection is expected to be at LOS B.

all of the study intersections are projected to operate at LOS C or better in the weekday AM peak hour, thereby conforming to the City's LOS C policy. Two study intersections are projected to operate at LOS C (Blue Ravine Road/Oak Avenue Parkway and Blue Ravine Road/Jorgensen Road/Parkway Drive), while the other three locations would be at LOS A or B. In the PM peak hour,

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the intersection of Blue Ravine Road/Oak Avenue Parkway is expected to operate at LOS D under cumulative no project conditions, thereby failing to conform to the City's LOS C policy.

Cumulative (2035) Plus Project Conditions

Table 20 presents the results of the intersection level of service analysis for the Cumulative Plus Project scenario.

| Intersection | Traffic Control | Weekday AM Peak Hour | | | | Weekday PM Peak Hour | | | |
|--|------------------------|--------------------------------------|---------------|--------------------------------------|---------------|-----------------------|------|-------------------------|---------------|
| | | Cumulative No Project | | Cumulative Plus Project | | Cumulative No Project | | Cumulative Plus Project | |
| | | Delay ¹ | LOS | Delay | LOS | Delay | LOS | Delay | LOS |
| Oak Avenue Parkway/Willow Creek Drive | All-Way STOP | 9.0 16.4 | CA | 9.0 16.5 | CA | 9.9 | A | 9.9 | A |
| Blue Ravine Road/Flower Drive | Signal | 13.3 27.6 | CB | 13.3 27.9 | CB | 13.76 | B | 13.87 | B |
| Blue Ravine Road/Oak Avenue Parkway | Signal | 25.2 35.9 ² | DE | 25.6 36.7 ² | DE | 41.32 ² | D | 43.0 | D |
| Blue Ravine Road/Jorgensen Road/Parkway Dr. | Signal | 31.9 36.1 ² | DE | 32.0 36.2 ² | DE | 33.7 | C | 34.50 | C |
| Oak Avenue Parkway/Creekside Drive/North Lexington Drive | Signal | 18.1 26.0 | CB | 18.1 26.1 | CB | 25.86 | C | 25.97 | C |
| Blue Ravine Road/Project Driveway | STOP-Sign ³ | N.A. ⁴ | N.A. | 27.2 13.1 | BD | N.A. | N.A. | 96.0 19.1 | CF |
| Oak Avenue Parkway/Project Driveway | STOP-Sign ³ | N.A. | N.A. | 15.3 20.2 | C | N.A. | N.A. | 13.20 | B |

Notes: ¹ Average control delay (seconds per vehicle). ² Shaded cell denotes unacceptable level of service. ³ Worst-case minor movement delay shown for STOP-sign-controlled intersections. ⁴ Not applicable. Intersection does not exist under "no project" conditions.
Source: MRO Engineers 2016

As shown on Table 20 4-17-5, in both peak-hour periods, the Proposed Project is expected to result in less-than-significant impacts to traffic operations at the study intersections under cumulative conditions. Although two study intersections are projected to fail to conform to the City's level of service standard in the AM or PM peak hour, the incremental increase in delay at those locations is less than the City's significance threshold of five seconds per vehicle. One study intersection (Blue Ravine Road/Oak Avenue Parkway) is projected to fail to conform to the City's LOS standard in the PM peak hour. However, the incremental increase in delay at that location is less than the City's significance threshold of five seconds per vehicle and, therefore, the impact is considered to be less than significant.

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Pages 4-90 through 4-93 of the Draft IS:

| | | | | |
|---|--|---|--|---------------------------------------|
| <p>d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</p> | Potentially Significant Impact <input type="checkbox"/> | Less than Significant with Mitigation Incorporated <input checked="" type="checkbox"/> | Less than Significant Impact <input type="checkbox"/> | No Impact <input type="checkbox"/> |
|---|--|---|--|---------------------------------------|

The Proposed Project would have driveways along Blue Ravine Road and Oak Avenue Parkway.

Blue Ravine Road Driveway – The driveway would be located roughly 600 feet west of the west edge of Oak Avenue Parkway. ~~It is proposed to provide full access (i.e., all turning movements would be allowed).~~ It is proposed to provide right-turns only, both inbound and outbound. Traffic exiting the project site at this location would be controlled by a stop sign.

Oak Avenue Parkway Driveway – This driveway would be located about 335 feet south of the south edge of Blue Ravine Road. Because of an existing raised median in Oak Avenue Parkway, it would be restricted to right turns only, both inbound and outbound. Exiting traffic would be stop sign-controlled.

Driveway Spacing

The driveways’ spacing from existing adjacent driveways conforms to the City’s practice (MRO Engineers 2016).

Turn Restrictions

Unsignalized driveways may be subject to restrictions on certain turning movements, based on City of Folsom policies. In particular, outbound left-turns are generally prohibited on six-lane roadways. For that reason, as well as the presence of an existing raised median, the Oak Avenue Parkway driveway would be restricted to right turns only for both entering and exiting traffic.

If they were allowed, left turns entering and exiting the Blue Ravine Road driveway would be facilitated by the existing center left-turn lane. Although the driveway would have a low volume of project-generated peak-hour traffic, the LOS analysis shows that delays associated with exiting left-turning vehicles would be relatively long, particularly in the PM peak hour under cumulative conditions. In the short term, the delays would be less substantial, so that no safety issues are initially anticipated. However, as traffic volumes on Blue Ravine Road grow, the potential for accidents involving drivers entering and exiting the site would also grow.

For that reason, the Blue Ravine Road driveway should also be restricted to right-turns only for both entering and exiting traffic. To ensure the effectiveness of this restriction, a raised median must be provided, as experience has shown that signage alone is insufficient to discourage drivers from making left turns. In this case, an existing section of raised median is present a short distance to the west of the proposed driveway. That median should be extended to the east to join another existing median on the west leg of the Blue Ravine Road/Oak Avenue Parkway intersection.

Currently, drivers exiting the project site and desiring to travel to the west on Blue Ravine Road have only limited alternatives if outbound left turns are prohibited. U-turns are prohibited on the eastbound approach at the Blue Ravine Road/Oak Avenue Parkway intersection, so drivers would be unable to make a right turn out of the site then perform a U-turn at that location. Instead, they

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would most likely exit the site via a right turn (probably at the Oak Avenue Parkway driveway), then travel south on Oak Avenue Parkway to Creekside Drive or East Bidwell Street.

~~Based on the foregoing, no turn restrictions are currently recommended at the Blue Ravine Road driveway. However, this location should be monitored by the City of Folsom to determine whether outbound left turns should be prohibited at some future time. If that becomes the case, a raised median would need to be constructed on Blue Ravine Road at the driveway to effectively control the flow of traffic.~~

Consultation with the City of Folsom Traffic Engineer has indicated that the Blue Ravine Road/Oak Avenue Parkway intersection could be modified to allow U-turns to be made on the eastbound approach, primarily through replacement of the existing lane use sign on the signal mast arm. Implementing this change will limit the amount of "out of direction" travel associated with restricting the driveway to right-turns only. It would also allow traffic approaching from the west to access the driveways serving the Oak Hills Church on the north side of Blue Ravine Road.

~~As drivers make the outbound left turn from the project site onto Blue Ravine Road, they would initially enter the center left turn lane then accelerate into the westbound through lane. This traffic movement could increase hazards from vehicle conflicts in the center left turn lane with vehicles attempting to enter the driveway at Oak Hills Church on the north side of Blue Ravine Road. With the implementation of Mitigation Measure T-1 this impact would be less than significant.~~

~~The existing raised median located to the west of the Proposed Project's Blue Ravine Road driveway could result in transition conflicts with vehicles exiting the project site and making a left turn on Blue Ravine Road. This impact would be less than significant with the implementation of Mitigation Measure T-1.~~

Right Turn-Deceleration Lanes or Tapers

The following guidelines are typically used in the City of Folsom for consideration of the need for right-turn deceleration lanes or tapers at private driveways located on roads with travel speeds of 45 miles per hour or greater, such as Blue Ravine Road and Oak Avenue Parkway:

- If the peak-hour right-turn volume into a private driveway is projected to be less than 10 vehicles per hour, no improvements are necessary.
- If the right-turn volume into a private driveway is projected to be 10 - 50 vehicles per hour, a right-turn deceleration taper should be constructed.
- If the right-turn volume into a private driveway is projected to be more than 50 vehicles per hour, a right-turn deceleration lane should be constructed.

Although the City has not formally adopted these guidelines, they are consistent with standards used by other jurisdictions in the area.

Applying these guidelines to the Proposed Project access location on Blue Ravine Road indicates that no right-turn improvements are necessary, as the projected right-turn volumes would be lower than 10 vehicles in both peak-hour periods. The maximum right-turn volume is nine vehicles at the Blue Ravine Road driveway in the PM peak hour under cumulative conditions.

At the Oak Avenue Parkway driveway, a maximum of 22 entering right turns are projected in the PM peak hour under cumulative conditions. Although this volume suggests the need for a right-turn taper, none of the other driveways (e.g., Folsom Dog Park) or public street intersections (e.g.,

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Creekside Drive/North Lexington Drive) along Oak Avenue Parkway in this area have right-turn tapers or lanes. Consequently, no right-turn taper or lane is recommended at the project driveway

Applying these guidelines to the Proposed Project access locations indicates that no right-turn improvements are necessary, as the projected right-turn volumes would be lower than 10 vehicles in both peak-hour periods. The maximum right-turn volume is seven vehicles at the Blue Ravine Road driveway in the PM peak hour (MRO Engineers 2016). No impact would occur.

Sight Distance

To ensure that drivers would be able to enter and exit the site safely, a stopping sight distance analysis was conducted at the proposed driveway locations using information provided in *A Policy on Geometric Design of Highways and Streets* [American Association of State Highway and Transportation Officials (AASHTO) 2011].

Blue Ravine Road and Oak Avenue Parkway each have a posted speed limit of 45 mph. Furthermore, the most recent radar speed survey conducted for the City on Blue Ravine Road (January 2017 May 2011) indicated that the 85th-percentile speed was 50 mph (i.e., 85 percent of drivers were traveling at or below 50 mph) and the average speed was 46 mph. On Oak Avenue Parkway, a 2011 speed survey conducted by the City of Folsom found the 85th-percentile speed was 51 mph and the average speed was 45 mph.

Based on criteria established in the AASHTO document, a 45 mph travel speed calls for 360 feet of clear stopping sight distance. To reflect the 85th-percentile speeds referenced above, a design value of 425 feet, the stopping sight distance value for 50 mph, was used in this evaluation.

Field investigations at the proposed access locations revealed the following findings:

- Blue Ravine Road Driveway – Looking west, exiting drivers would have clear sight distance of over 500 feet. ~~Westbound drivers making a left turn into the site also have over 500 feet of clear visibility. To the east, well over 600 feet of clear sight distance would be available, as drivers can see past Oak Avenue Parkway.~~ Thus, more than adequate sight distance is available for entering and exiting drivers in both directions from this driveway.
- Oak Avenue Parkway Driveway – To the north, drivers exiting the site would have adequate sight distance, as they would be able to see well beyond Blue Ravine Road.

It should be noted that the elevation of the project site lower than Blue Ravine Road. The sight distance findings presented above for the Blue Ravine Road driveway are based on the assumption that the exiting vehicle is approximately level (i.e., the driveway approach at Blue Ravine Road is not excessively steep).

Adequate sight distance is expected to be available to allow safe operation of both project driveways. However, landscaping on the south side of Blue Ravine Road, west of the project driveway, and on the west side of Oak Avenue Parkway, north of the project driveway, could block sight lines if the landscaping is not kept low. With implementation of Mitigation Measure T-1 and T-2 impacts would be less than significant.

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Mitigation Measures

T-1 Traffic Design

The Project applicant shall incorporate the recommendations listed in the Traffic Impact Analysis (TIA) prepared by MRO Engineers into the final design of the Project. Design recommendations include:

- ~~A. The Blue Ravine Road driveway shall align with the existing driveway at the Oak Hills Church on the north side of Blue Ravine Road, in order to avoid vehicular conflicts in the center left turn lane.~~
- ~~B. No turn restrictions are initially necessary at the Blue Ravine Road driveway (i.e., full access is appropriate), although it is recommended that this be monitored to determine whether restrictions on outbound left turns might become necessary as traffic volumes grow on Blue Ravine Road.~~
- C. The easterly nose of the existing raised median on Blue Ravine Road west of the project driveway shall be modified to reflect the configuration illustrated in the TIA.
- D. The Oak Avenue Parkway driveway shall be restricted to right turns only, both inbound and outbound.
- E. Both driveways shall have adequate sight distance for entering and exiting drivers. Sight lines to the west of the Blue Ravine Road driveway and to the north of the Oak Avenue Parkway driveway shall not be blocked.
- F. The Blue Ravine Road driveway shall be designed so that exiting vehicles are approximately level as they wait to depart.
- G. STOP-sign control shall be employed at both project driveways.
- H. Both project driveways should be restricted to right turns only, both inbound and outbound.
- I. To ensure the driveway turn restriction is effective at the Blue Ravine Road access location, a raised median should be constructed on Blue Ravine Road connecting the existing median west of the project site with the existing median on the west leg of the Blue Ravine Road/Oak Avenue Parkway intersection.
- J. The intersection of Blue Ravine Road/Oak Avenue Parkway should be modified to allow U-turns on the eastbound approach.

T-2 Traffic Control Plan

Prior to any lane closures the applicant (or its contractor) shall prepare a Traffic Control Plan to ensure proper access to residences and businesses in the area by emergency vehicles during construction and to maintain traffic flow. The Traffic Control Plan shall be approved by the City of Folsom.

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Pages 4-93 and 4-94 of the Draft IS:

| | | | | |
|--|--|--|--|--|
| <p>f) Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or otherwise decrease the performance or safety of such facilities?</p> | Potentially Significant Impact <input type="checkbox"/> | Less than Significant with Mitigation Incorporated <input type="checkbox"/> | Less than Significant Impact <input type="checkbox"/> | No Impact <input checked="" type="checkbox"/> |
|--|--|--|--|--|

The Proposed Project would not conflict with public transportation programs, plans, or policies. Construction and operation traffic impacts would not result in the study intersections fail to conform to the City's LOS C standard (see answer to question a). The Proposed Project would incorporate existing pedestrian bicycle facilities and construct new facilities where they are missing resulting in beneficial impacts to pedestrian and bicycle safety (see answer to question d).

Mitigation Measures

T-1 Traffic Design

~~The Project applicant shall incorporate the recommendations listed in the Traffic Impact Analysis (TIA) prepared by MRO Engineers into the final design of the Project. Design recommendations include:~~

- ~~A. The Blue Ravine Road driveway shall align with the existing driveway at the Oak Hills Church on the north side of Blue Ravine Road, in order to avoid vehicular conflicts in the center left turn lane.~~
- ~~B. No turn restrictions are initially necessary at the Blue Ravine Road driveway (i.e., full access is appropriate), although it is recommended that this be monitored to determine whether restrictions on outbound left turns might become necessary as traffic volumes grow on Blue Ravine Road.~~
- ~~C. The easterly nose of the existing raised median on Blue Ravine Road west of the project driveway shall be modified to reflect the configuration illustrated in the TIA.~~
- ~~D. The Oak Avenue Parkway driveway shall be restricted to right turns only, both inbound and outbound.~~
- ~~E. Both driveways shall have adequate sight distance for entering and exiting drivers. Sight lines to the west of the Blue Ravine Road driveway and to the north of the Oak Avenue Parkway driveway shall not be blocked.~~
- ~~F. The Blue Ravine Road driveway shall be designed so that exiting vehicles are approximately level as they wait to depart.~~
- ~~G. STOP sign control shall be employed at both project driveways.~~

T-2 Traffic Control Plan

~~Prior to any lane closures the applicant (or its contractor) shall prepare a Traffic Control Plan to ensure proper access to residences and businesses in the area by emergency vehicles~~

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~~during construction and to maintain traffic flow. The Traffic Control Plan shall be approved by the City of Folsom.~~

3. Minor revisions have been made to Section 4.12 Noise and Appendix D of the Draft IS to add a discussion describing interior noise levels related to implementation of the Proposed Project. In addition, Mitigation Measure N-1 has been revised on pages 4 and 4-75 of the Draft IS/MND to provide clarification in regards to the aforementioned updated discussion.
-

Page 4 and 4-75 of the Draft IS/MND:

Mitigation Measure

N-1 Noise Barrier

The Proposed Project shall include a six-foot (or higher) solid masonry noise barrier (relative to building floors) on the western half of the site with frontage on Blue Ravine Road (except for the entrance/exit to the project site); or

The Proposed Project shall include a five-foot (or higher) solid masonry noise barrier around the northern, western and eastern perimeter of the proposed pool activity area.

~~The implementation of Mitigation Measure N-1 would reduce future Blue Ravine Road traffic noise by approximately 5 dB. As a result, future traffic noise levels at outdoor activity areas closest to Blue Ravine Road are predicted to be approximately 60 dB Ldn, and would comply with the City of Folsom 60 dB Ldn criteria, reducing noise impacts to a less than significant level.~~

Page 4-75 of the Draft IS:

Interior Noise Level Impacts

The 24-hour noise level 80 feet south of the centerline of Blue Ravine Road (Site 1), approximately the same distance from Blue Ravine Road as the closest proposed building facades of the proposed project is 66 to 67 dB CNEL. Typical residential construction consistent with the Uniform Building Code (UBC) will provide an exterior-to-interior noise level reduction of no less than 25 dB provided that exterior windows and doors are closed (Bollard Acoustical Consultants Inc., 2005). Therefore, exterior traffic noise exposure on the project site would need to exceed 70 dB CNEL to possibly produce interior noise levels in excess of 45 dB CNEL. Assuming typical residential construction, exterior traffic noise exposure of 67 dB CNEL at the closest proposed building facades to Blue Ravine Road may produce interior traffic noise levels of up to 42 dB CNEL. Therefore, the Proposed Project would be below the City of Folsom's interior noise standard of 45 dB CNEL. No noise-mitigating building construction improvements would be needed for the Proposed Project.

4. Minor revisions have been made to Section 4.18 Tribal Cultural Resources to provide an updated discussion relative to AB 52 consultation for the Proposed Project.
-

Page 4-96 of the Draft IS:

On December 1, 2016, the City of Folsom the Planning Division of the Community Development Department of the City of Folsom initiated environmental review under the California Environmental Quality Act (CEQA) for the Parkway Apartments Project. In accordance with Assembly Bill 52 (AB

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52) and Section 21080.3.1(b) of the California Public Resources Code (PRC), the City provided three Native American Groups (Shingle Springs Rancheria, United Auburn Indian Community, and Wilton Rancheria) with the opportunity to consult regarding the potential for this project to impact Tribal Cultural Resources, as defined in Section 21074 of the PRC. The Shingle Springs Rancheria declined the opportunity to consult with the City. The United Auburn Indian Community and the Wilton Rancheria expressed a desire to consult further with the City regarding potential Tribal Cultural Resources. Upon reviewing of the Cultural Resource Information prepared for the Proposed Project, and through consultation with the City, the United Auburn Indian Community and the Wilton Rancheria indicated that they did not have concerns regarding potential Tribal Cultural Resources on the project site. As a result, the City concluded the consultation with no further action being required per AB 52.

Pursuant to the procedures set forth in Appendix G of the State CEQA Guidelines, the City of Folsom has notified Native American tribes with traditional and cultural affiliation to the City of the Proposed Project. In accordance with Assembly Bill 52 (AB 52) and Section 21080.3.1(b) of the California Public Resources Code (PRC), the City provided a notice of opportunity to consult regarding the potential for this project to impact Tribal Cultural Resources, as defined in Section 21074 of the PRC. The purposes of tribal consultation under AB 52 are to determine, as part of the CEQA review process, whether or not Tribal Cultural Resources are present within the project area, and if so, whether or not those resources will be significantly impacted by the project. If Tribal Cultural Resources may be significantly impacted, then consultation will also help to determine the most appropriate way to avoid or mitigate those impacts. The notice was sent to the United Auburn Indian Community, the Wilton Rancheria, and the Shingle Springs Rancheria on December 1, 2016.

The City received a formal request to consult from the Wilton Rancheria tribe within the required 30-day response window (Section 21080.3.1(b) of the PRC). The City issued a letter formally initiating consultation with Wilton Rancheria. A site visit has been coordinated between the City and Wilton Rancheria for the second week of January 2017. Consultation is ongoing.

5. A minor revision has been made to the Draft IS/MND on pages 1, 1-4, 2-1, 2-10, and 4-39 to correct the acreage of the construction impact area for the Proposed Project.

Pages 1, 1-4, 2-1, 2-10, and 4-39 of the Draft IS/MND

4.153.5 acres

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SECTION 5. MITIGATION MONITORING AND REPORTING PLAN

5.1 Introduction

In accordance with CEQA, an MND that identifies adverse impacts related to the construction activity for the Parkway Apartments Project was prepared. The MND identifies mitigation measures that would reduce or eliminate these impacts.

Section 21081.6 of the Public Resources Code and Sections 15091(d) and 15097 of the State CEQA Guidelines require public agencies to adopt a reporting and monitoring program for changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. An MMRP is required for the Proposed Project, because the IS/MND identified potentially significant adverse impacts related to construction activity, and mitigation measures have been identified to mitigate these impacts. Adoption of the MMRP will occur along with approval of the Proposed Project.

5.2 Purpose of the Mitigation Monitoring and Reporting Plan

This MMRP has been prepared to ensure that all required mitigation measures are implemented and completed according to schedule and maintained in a satisfactory manner during the construction and operation of the Proposed Project, as required. The MMRP may be modified by the City during project implementation, as necessary, in response to changing conditions or other project refinements. Table 4-1 has been prepared to assist the responsible parties in implementing the MMRP. This table identifies the category of significant environmental impact(s), individual mitigation measures, monitoring and mitigation timing, responsible person/agency for implementing the measure, monitoring and reporting procedure, and notation space to confirm implementation of the mitigation measures. The numbering of the mitigation measures follows the numbering sequence in the IS/MND.

5.3 Roles and Responsibilities

The City, as Lead Agency, is responsible for oversight of compliance of the mitigation measures in the MMRP.

5.4 Mitigation Monitoring and Reporting Plan

The column categories identified in the MMRP table (Table 4-1) are described below.

- **Mitigation Measure** – This column lists the mitigation measures by number.
- **Monitoring Activity/Timing/Frequency/Schedule** – This column lists the activity to be monitored for each mitigation measure, the timing of each activity, and the frequency/schedule of monitoring for each activity.
- **Implementation Responsibility/Verification** – This column identifies the entity responsible for complying with the requirements of the mitigation measure, and provides space for verification initials and date.
- **Responsibility for Oversight of Compliance/Verification** – This column provides the agency responsible for oversight of the mitigation implementation, and is to be dated and initialed by the agency representative based on the documentation provided by the construction contractor or through personal verification by agency staff.

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- **Outside Agency Coordination** – this column lists any agencies with which the City of Folsom may coordinate for implementation of the mitigation measure.
- **Comments** – this column provides space for written comments, if necessary.

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**Table 5-1
The Parkways Apartment Project
Mitigation Monitoring and Reporting Program**

| Mitigation Measure | Monitoring Activity/Timing/Frequency/Schedule | Implementation Responsibility/Verification | Responsibility for Oversight of Compliance/Verification | Outside Agency Coordination | Comments |
|---|---|---|--|--|----------|
| <p>BIO-1 Preconstruction Nesting Bird Survey</p> <p>Conduct a preconstruction nesting bird survey of all suitable habitat within 14 days prior to the commencement of construction during the nesting season (1 February through 31 August). If active nests are found, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. No further measures are necessary once the young are independent of the nest. Pre-construction nesting surveys are not required for construction activity outside the nesting season.</p> | <p>Activity: Conduct pre-construction Nesting Bird Survey</p> <p>Timing: 14 days prior to commencement of construction during the nesting season (1 February through 31 August).</p> <p>Frequency: Once prior to construction.</p> | <p>Project Biologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>Possible coordination with California Department of Fish and Wildlife (CDFW).</p> | |

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| Mitigation Measure | Monitoring Activity/Timing/Frequency/Schedule | Implementation Responsibility/Verification | Responsibility for Oversight of Compliance/Verification | Outside Agency Coordination | Comments |
|--|--|---|--|--|----------|
| <p>BIO-1 Preconstruction Nesting Bird Survey (continued)</p> <p>If active nests are found, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. No further measures are necessary once the young are independent of the nest. Pre-construction nesting surveys are not required for construction activity outside the nesting season.</p> | <p>Activity: Establish a no-disturbance buffer.</p> <p>Timing: During construction</p> <p>Frequency: As required.</p> | <p>Project Biologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>Possible coordination with California Department of Fish and Wildlife (CDFW).</p> | |

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| Mitigation Measure | Monitoring Activity/Timing/Frequency/Schedule | Implementation Responsibility/ Verification | Responsibility for Oversight of Compliance/ Verification | Outside Agency Coordination | Comments |
|--|--|---|---|---|-----------------|
| <p>BIO-2 Preconstruction Survey for Northwestern Pond Turtles</p> <p>To avoid construction-related impacts on northwestern pond turtles, the City will retain a wildlife biologist to conduct a preconstruction survey for northwestern pond turtles no more than 48 hours before the start of construction. The wildlife biologist will look for adult pond turtles, in addition to nests containing pond turtle hatchlings and eggs. If a western pond turtle is located in the construction area, the biologist will move the turtle to a suitable aquatic site outside the construction area. If an active pond turtle nest containing either pond turtle hatchlings or eggs is found, the City will consult the CDFW to determine and implement appropriate avoidance measures, which may include a "no-disturbance" buffer around the nest site until the hatchlings have moved to a nearby aquatic site.</p> | <p>Activity: Conduct a pre-construction survey for northwestern pond turtles.</p> <p>Timing: No more than 48 hours prior to construction activities.</p> <p>Frequency: Once, prior to construction.</p> | <p>Project Biologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>Possible coordination with CDFW.</p> | |

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| Mitigation Measure | Monitoring Activity/Timing/Frequency/ Schedule | Implementation Responsibility/ Verification | Responsibility for Oversight of Compliance/ Verification | Outside Agency Coordination | Comments |
|--|---|---|--|---|----------|
| <p>BIO-3 Comply with Clean Water Act and California Fish and Game Code</p> <p>Prior to the construction of any phase or component of the Proposed Project that involves impacting drainages, or wetlands through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification to a jurisdictional drainage, a jurisdictional delineation shall be conducted. Any jurisdictional impacts will require the owner/applicant to obtain permits from the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and Central Valley Region Regional Water Quality Control Board (RWQCB) before any development can commence. Project specific mitigation for impacts to features jurisdictional to state and federal agencies will be determined during the wetland</p> | <p>Activity: Show evidence of obtained permits required</p> <p>Timing: Prior to construction activities.</p> <p>Frequency: Once prior to construction.</p> | <p>Project Biologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>Coordination with CDFW, US Army Corps of Engineers (USACE), and Central Valley Regional Water Quality Control Board (RWQCB).</p> | |

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| Mitigation Measure | Monitoring Activity/Timing/Frequency/ Schedule | Implementation Responsibility/ Verification | Responsibility for Oversight of Compliance/ Verification | Outside Agency Coordination | Comments |
|--|--|---|---|--|-----------------|
| <p>permitting process. Mitigation could include land conservation and management in perpetuity, on-site habitat enhancement and restoration, payment of in-lieu fees to authorized conservation organizations, or a combination of these measures. The owner/project applicant shall provide evidence that said permits have been obtained, or that the permit is not required, prior to staff review and approval of any grading or improvement plan.</p> | | | | | |
| <p>CUL-1 Unanticipated Discovery</p> <p>In the event that any subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall</p> | <p>Activity: If archaeological materials are found then ground disturbing activities must be suspended within a 100-foot radius of the find.</p> <p>Timing: During construction.</p> <p>Frequency: As required.</p> | <p>Project Archaeologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>Possible coordination with State Historic Preservation Office (SHPO).</p> | |

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|---|--|--|---|------------------------------------|-----------------|
| <p>have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:</p> <p>A. If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.</p> <p>B. If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the relevant federal and CEQA agencies, and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be eligible for inclusion in the NRHP or California Register of Historical Resources (CRHR). Work may not</p> | | | | | |

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| Mitigation Measure | Monitoring Activity/Timing/Frequency/ Schedule | Implementation Responsibility/ Verification | Responsibility for Oversight of Compliance/ Verification | Outside Agency Coordination | Comments |
|--|---|--|---|---|--|
| <p>resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to their satisfaction.</p> | | | | | |
| <p>CUL-2 Human Remains Discovery If human remains of any kind are found during construction, or remains that are potentially human, a qualified professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Sacramento County Coroner (per §7050.5 of the Health and Safety Code). The provisions of §7050.5 of the California Health and Safety Code, Section 5097.98 of the California Public Resources Code, and Assembly Bill 2641 will be implemented. If the Coroner</p> | <p>Activity: Unanticipated human remains discovery, determination and relocation.</p> <p>Timing: During construction.</p> <p>Frequency: As required.</p> | <p>Project Archaeologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>Possible coordination with Sacramento County Coroner, SHPO, NAHC, and MLD.</p> | <p>Contact applicable land owners.</p> |

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|---|---|--|---|------------------------------------|-----------------|
| <p>determines the remains are Native American and not the result of a crime scene, then the Coroner will notify the Native American Heritage Commission, which then will designate a Native American Most Likely Descendant (MLD) for the project (§5097.98 of the Public Resources Code). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, then the NAHC can mediate (§5097.94 of the Public Resources Code). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or</p> | | | | | |

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|--|---|--|---|------------------------------------|-----------------|
| <p>conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.</p> | | | | | |
| <p>GEO-1 Seismic related Liquefaction During excavation activities a relatively thick non-liquefied layer shall be placed above the potentially liquefiable soils to act as a bridging layer that redistributes stresses and therefore results in more uniform ground surface settlement, as well as decreasing the amount of settlement.</p> | <p>Activity: Place thick bridging layer of soil over liquefiable soil to create uniform ground surface and decrease settlement.</p> <p>Timing: During construction.</p> <p>Frequency: As required.</p> | <p>Project Contractor</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | | |

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|---|--|--|--|-----------------------------|----------|
| <p>GEO-2 Compressible Soils</p> <p>A. As identified in the geotechnical investigation prepared ACE Quality Control, Inc., the upper seven to ten feet of loose tailings materials existing in the construction area shall be over- excavated. Those earth materials deemed suitable for re-use as engineered fill could be stockpiled.</p> <p>B. If the unsuitable materials are not removed, then special foundation systems should be designed to account for potential total and differential settlements according to the specifications described in geotechnical investigation prepared by ACE Quality Control, Inc.</p> <p>C. Areas where deeper loose, wet soils are removed as well as areas where trees have been or will be cleared, remedial grading will also be required to remove the loose soils and ensure the removal of the</p> | <p>Activity: Site Grading</p> <p>Timing: Prior to placing fill materials to planned rough pad grade.</p> <p>Frequency: Once, prior to construction.</p> | <p>Project Contractor</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> <p>Qualified Inspector</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | | |

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| <p>entire tree root systems. Any slickens soils that might be encountered are considered highly compressible and expansive and shall be completely removed from the construction areas.</p> <p>D. Once the construction areas have been cleared, any unsuitable soils over-excavated and any other excavations made, then subgrades that will receive engineered fill, that are to be left at existing grade, or that represent final subgrades achieved by excavation should be scarified to at least 8 inches. Suitability of soils exposed in the bottom of all subgrades shall be verified by a qualified inspector during site grading. Upon favorable review, exposed subgrades should be scarified and recompacted (in-place) an additional 8 inches and/or prior to placing engineered fill materials to planned rough pad grade.</p> | | | | | |

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|--|--|--|---|--------------------------------------|-----------------|
| <p>H-1 Changes to Base Flood Elevations</p> <p>Prior to the issuance of a grading permit the Project Proponent or their representative will obtain a Conditional Letter of Map Revision (CLOMR) from the Federal Emergency Management Agency (FEMA) for changes to Base Flood Elevations. Once project construction is complete, the project proponent or their representative shall request that FEMA review the alterations and issue a Letter of Map Revision (LOMR) for modifications to an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both. Proposed building pads shall be a minimum of 2 feet above the respective base flood elevation.</p> | <p>Activity: Obtain CLOMR from FEMA prior to grading permit issuance.</p> <p>Timing: Prior to commencement of construction activities.</p> <p>Frequency: Prior to construction.</p> | <p>Project Contractor</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City to coordinate with FEMA.</p> | |

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| Mitigation Measure | Monitoring Activity/Timing/Frequency/ Schedule | Implementation Responsibility/ Verification | Responsibility for Oversight of Compliance/ Verification | Outside Agency Coordination | Comments |
|--|---|--|---|--------------------------------------|-----------------|
| <p>H-1 Changes to Base Flood Elevations (Continued)</p> <p>Once project construction is complete, the project proponent or their representative shall request that FEMA review the alterations and issue a Letter of Map Revision (LOMR) for modifications to an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both.</p> | <p>Activity: Request LOMR from FEMA upon construction completion.</p> <p>Timing: Upon construction completion.</p> <p>Frequency: Once upon completion of construction.</p> | <p>Project Contractor</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City to coordinate with FEMA.</p> | |
| <p>H-1 Changes to Base Flood Elevations (Continued)</p> <p>Proposed building pads shall be a minimum of 2 feet above the respective base flood elevation.</p> | <p>Activity: Construct building pads to meet design requirement.</p> <p>Timing: Upon construction completion.</p> <p>Frequency: As required.</p> | <p>Project Contractor</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | | |

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|---|---|--|---|------------------------------------|-----------------|
| <p>N-1 Noise Barrier</p> <p>The Proposed Project shall include a six-foot (or higher) solid masonry noise barrier (relative to building floors) on the western half of the site with frontage on Blue Ravine Road (except for the entrance/exit to the project site);</p> <p>or</p> <p>The Proposed Project shall include a five-foot (or higher) solid masonry noise barrier around the northern, western and eastern perimeter of the proposed pool activity area.</p> | <p>Activity: Construct noise barrier.</p> <p>Timing: During construction activities.</p> <p>Frequency: Once during construction.</p> | <p>Project Contractor</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | | |

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|---|--|---|--|-----------------------------|----------|
| <p>P-1 Unanticipated Discovery of Paleontological Resources</p> <p>If paleontological or other geologically sensitive resources be identified during any phase of project development, the construction manager shall cease operation at the site of the discovery and immediately notify the Community Development Department. The owner/applicant shall retain a qualified paleontologist to provide an evaluation of the find and to prescribe mitigation measures to reduce impacts to a less than significant level. In considering any suggested mitigation proposed by the consulting paleontologist, the Community Development Department shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, land use assumptions, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data</p> | <p>Activity: Retain qualified paleontologist for evaluation and possible mitigation measures</p> <p>Timing: During ground disturbing activities.</p> <p>Frequency: As required.</p> | <p>Project Contractor</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> <p>Project Paleontologist</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | | |

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|---|--|--|---|------------------------------------|-----------------|
| recovery) shall be instituted. Work may proceed on other parts of the project site while mitigation for paleontological resources is carried out. | | | | | |
| <p>T-1 Traffic Design</p> <p>A. The easterly nose of the existing raised median on Blue Ravine Road west of the project driveway shall be modified to reflect the configuration illustrated in the TIA.</p> <p>B. The Oak Avenue Parkway driveway shall be restricted to right turns only, both inbound and outbound.</p> <p>C. Both driveways shall have adequate sight distance for entering and exiting drivers. Sight lines to the west of the Blue Ravine Road driveway and to the north of the Oak Avenue Parkway driveway shall not be blocked.</p> | <p>Activity: Incorporate TIA recommendations into Project Design.</p> <p>Timing: Prior to commencement of construction activities.</p> <p>Frequency: Prior to construction.</p> | <p>Project Contractor</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | | |

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|--|---|--|---|------------------------------------|-----------------|
| <p>D. The Blue Ravine Road driveway shall be designed so that exiting vehicles are approximately level as they wait to depart.</p> <p>E. STOP-sign control shall be employed at both project driveways.</p> <p>F. Both project driveways should be restricted to right turns only, both inbound and outbound.</p> <p>G. To ensure the driveway turn restriction is effective at the Blue Ravine Road access location, a raised median should be constructed on Blue Ravine Road connecting the existing median west of the project site with the existing median on the west leg of the Blue Ravine Road/Oak Avenue Parkway intersection.</p> <p>H. The intersection of Blue Ravine Road/Oak Avenue Parkway should be modified to allow U-turns on the eastbound approach.</p> | | | | | |

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| Mitigation Measure | Monitoring Activity/Timing/Frequency/ Schedule | Implementation Responsibility/ Verification | Responsibility for Oversight of Compliance/ Verification | Outside Agency Coordination | Comments |
|--|--|--|--|-----------------------------|----------|
| <p>T-2 Traffic Control Plan</p> <p>Prior to any lane closures the applicant (or its contractor) shall prepare a Traffic Control Plan to ensure proper access to residences and businesses in the area by emergency vehicles during construction and to maintain traffic flow. The Traffic Control Plan shall be approved by the City of Folsom.</p> | <p>Activity: Prepare a Traffic Control Plan.</p> <p>Timing: Prior to commencement of construction activities.</p> <p>Frequency: Once prior to construction.</p> | <p>Project Contractor</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | <p>City</p> <hr/> <p>Initials</p> <hr/> <p>Date</p> | | |

To be signed when all mitigation measures have been completed:

Signature

David E. Miller, Public Work and Community Development Director

Printed Name

Date

**The Parkway Apartments Project
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SECTION 6. LIST OF ATTACHMENTS

Attachment A – Final Traffic Impact Analysis

Attachment B – Environmental Noise Assessment

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

ATTACHMENT A

Attachment A – Final Traffic Impact Analysis

M R O

ENGINEERS

**Final
Traffic Impact Analysis**

**Parkway Apartments
Folsom, California**

Prepared For
ECORP Consulting, Inc.
&
City of Folsom
Community Development Department

February 15, 2017

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EXECUTIVE SUMMARY

This revised draft report addresses the traffic impacts associated with the proposed Parkway Apartments project, which includes 72 low-income, multi-family residential units in Folsom, California. The proposed project would be located on the south side of Blue Ravine Road, west of Oak Avenue Parkway. Vehicular access to and from the proposed project would be via two right-turn-only driveways – one on Blue Ravine Road and one on Oak Avenue Parkway.

The study evaluates weekday AM and PM peak hour traffic operations in the vicinity of the project site under the following scenarios:

- Existing Conditions,
- Construction Year No Project Conditions,
- Construction Year Plus Project Conditions,
- Cumulative No Project Conditions, and
- Cumulative Plus Project Conditions.

Impacts of the project were evaluated at five key intersections in the immediate vicinity of the project site. In addition, the project's proposed access driveways were evaluated with respect to their ability to serve the proposed project safely and effectively.

Existing Conditions

- Updated AM peak-period turning movement counts were performed at the five study intersections on January 24, 2017, a typical school day. New PM peak-period counts were not necessary, as little or no school-related activity occurs during that time period.
- A new radar speed survey conducted on Blue Ravine Road near the project site found that the 85th-percentile speed is 50 MPH and the average speed is 46.4 MPH. These results are similar to the City's 2011 findings, which served as the basis for establishing the speed limit.
- All five study intersections operate at LOS B or C in the weekday AM peak hour.
- In the PM peak hour, all five study intersections operate at LOS A or B.
- In both peak hours, the study intersections all conform to the City of Folsom *General Plan* policy calling for operation at LOS C or better.
- During the most-recent three-year period (2014 – 2016), twelve accidents occurred at Blue Ravine Road/Oak Avenue Parkway and six accidents were reported at Blue Ravine Road/Flower Drive.

Construction Year No Project Conditions

- The traffic associated with 33 previously-approved and reasonably foreseeable developments was included in the evaluation of traffic operations under Construction Year No Project conditions. Those projects will generate approximately 5,500 AM peak hour trips and over 7,300 PM peak hour trips.
- In addition, a growth factor of three percent was applied to the existing traffic volumes.

- In the AM peak hour, the study intersections are all expected to operate at LOS B or C, which will conform to the City's LOS C policy.
- The study intersection of Blue Ravine Road/Oak Avenue Parkway will operate at LOS C under this analysis scenario, while the other study locations will be at LOS A or B. All of the study intersections will conform to the City's level of service policy.

Construction Year Plus Project Conditions

- The proposed project is expected to generate 37 AM peak-hour trips (7 inbound and 30 outbound), 45 PM peak-hour trips (29 inbound and 16 outbound), and 480 daily trips.
- In the AM peak hour, addition of the project-generated traffic will cause little or no change in the estimated delay at the study intersections, and no change in level of service is projected. Both project driveway intersections will operate at LOS B and neither will have enough traffic to meet the Peak Hour signal warrant. All of the study locations will conform to the City's level of service policy.
- No change in level of service is projected at the study intersections in the PM peak hour. All of the study intersections will operate at LOS C or better. Both project driveway intersections are projected to be LOS B, and neither will meet the Caltrans Peak Hour signal warrant.
- The project's traffic impacts are less than significant in both peak-hour periods and no off-site mitigation measures are recommended.

Cumulative No Project Conditions

- The cumulative conditions analysis reflects the level of development anticipated in the City of Folsom and throughout the Sacramento region through the year 2035. The traffic volume projections employed in this analysis are based on information presented in the environmental documentation for the Folsom Sphere of Influence (south of U.S. Highway 50) annexation.
- The following major transportation system improvements are reflected in the future year traffic forecasts used in this analysis:
 - Construction of a new interchange at U.S. Highway 50/Oak Avenue Parkway,
 - Construction of the U.S. Highway 50/Empire Ranch Road interchange,
 - Addition of a third through lane in each direction on Iron Point Road (where necessary), and
 - Addition of a third through lane in each direction on East Bidwell Street (where necessary).
- In addition, the traffic projections reflect completion of all roadway system improvements within the Folsom Plan Area Specific Plan, as well as the regional transportation system improvements identified in the SACOG Metropolitan Transportation Plan/Sustainable Communities Strategy.
- Three of the study intersections are projected to operate at LOS C in the AM peak hour. Two locations (Blue Ravine Road/Oak Avenue Parkway and Blue Ravine Road/Jorgensen Road/Parkway Drive) will be at LOS D, which falls short of the City level of service policy.
- In the PM peak hour, the intersection of Blue Ravine Road/Oak Avenue Parkway is expected to operate at LOS D, thereby failing to conform to the City's LOS C policy. The other four study locations are projected to be at LOS C or better, which is acceptable under City policy.

Cumulative + Project Conditions

- With addition of the project traffic, no change in level of service is projected at any of the study intersections in the AM peak hour, and the incremental increases in delay attributable to project-generated traffic will be small (a maximum of 0.8 seconds per vehicle). Thus, even at the two locations that will be at LOS D, the project-related impact is less than significant./
- The project's Blue Ravine Road access intersection is projected to operate at LOS B in the AM peak hour, and the project driveway on Oak Avenue Parkway is projected to operate at LOS C. Neither driveway will meet the warrants for installation of a traffic signal.
- In the weekday PM peak hour, the project would result in small increases in delay at the study intersections. The projected level of service at Blue Ravine Road/Oak Avenue Parkway (LOS D) is worse than LOS C, but the project-related delay increase (1.7 seconds per vehicle) is less than the City's significance threshold. The other study intersections will operate at acceptable levels of service.
- The Blue Ravine Road/Project Driveway intersection will operate at LOS C in the PM peak hour, and the Oak Avenue Parkway driveway intersection is expected to be at LOS B. The Peak Hour signal warrant will not be met at either driveway location.
- The project-related impact is less than significant, and no mitigation measures are recommended.

Project Access and Circulation Analysis

- Two driveways are proposed to serve the project. The Blue Ravine Road driveway will be located about 600 feet west of Oak Avenue Parkway, while the Oak Avenue Parkway driveway will be located about 335 feet south of Blue Ravine Road.
- Key findings and recommendations resulting from the access analysis described above include:
 - The proposed driveway spacing conforms to City of Folsom practice.
 - Both driveways should be restricted to right-turns only, both inbound and outbound.
 - To ensure the driveway turn restriction is effective at the Blue Ravine Road access location, a raised median should be constructed on Blue Ravine Road connecting the existing median west of the project site with the existing median on the west leg of the Blue Ravine Road/Oak Avenue Parkway intersection.
 - The intersection of Blue Ravine Road/Oak Avenue Parkway should be modified to allow U-turns on the eastbound approach.
 - No right-turn lane or taper is recommended at either driveway.
 - Both driveways will have adequate sight distance for exiting drivers, although care must be taken to avoid blocking sight lines to the west of the Blue Ravine Road driveway and north of the Oak Avenue Parkway driveway
 - The Blue Ravine Road driveway must be designed so that exiting vehicles are approximately level as they wait to depart.
 - STOP-sign control should be employed at both project driveways.
 - The site plan provides adequate throat depth at both driveways.

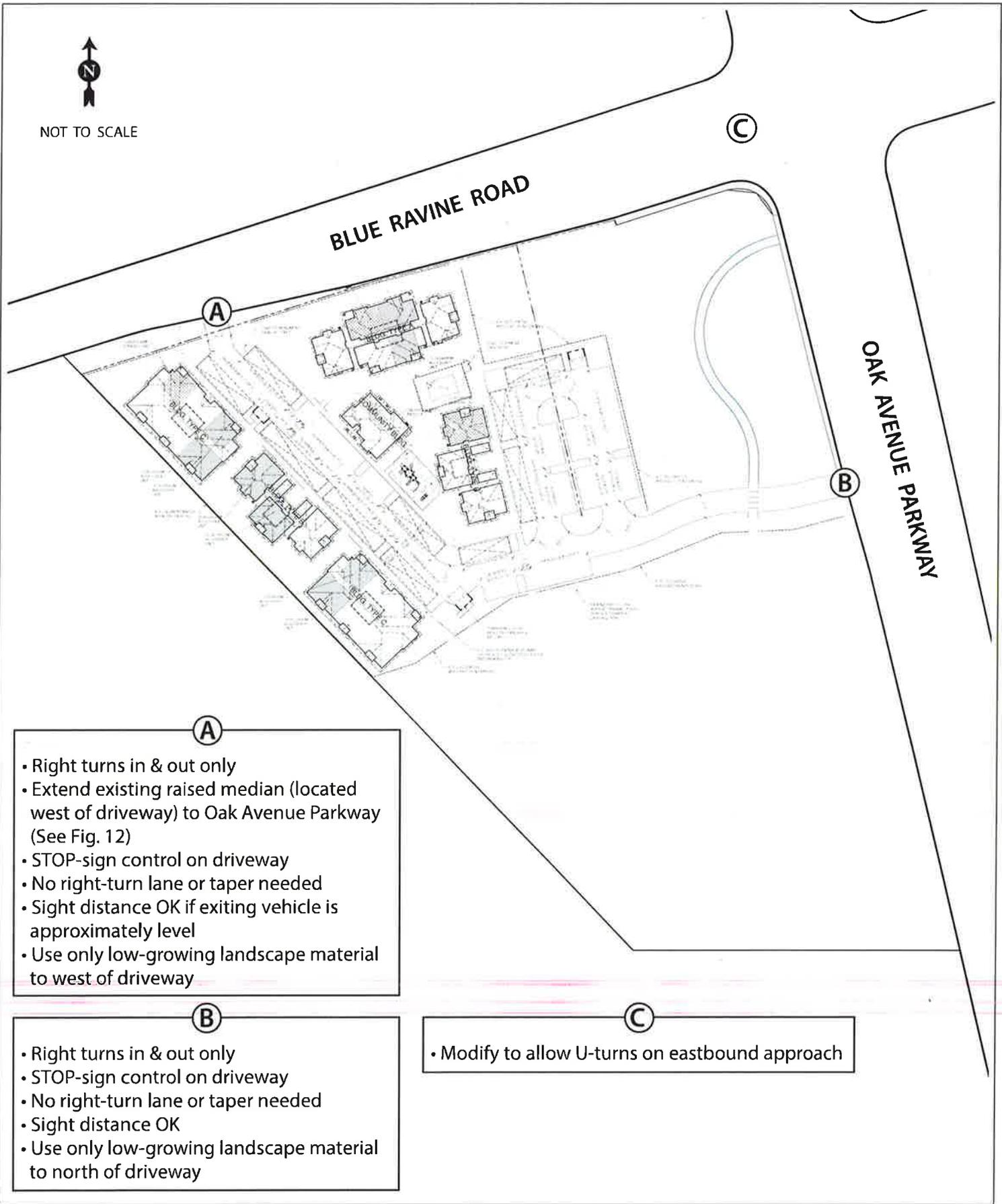
- These findings and recommendations are illustrated on Figure ES-1.
- The project should be required to construct a standard sidewalk along its Blue Ravine Road frontage as an extension of the existing stub sidewalk at the southwest corner of Blue Ravine Road/Oak Avenue Parkway.
- An off-street bike path is planned along the south edge of the apartment project site, extending westerly from Oak Avenue Parkway. Although not yet complete, that path is already in use. According to the project site plan, the bike path will be finished as part of the project.
- In accordance with the City's *Design Guidelines for Multi-Family Development*, the project shall provide one bicycle parking space for every five units (i.e., 14 spaces). The bicycle parking shall be distributed evenly around the project site.

Parking Assessment

- A total of 129 parking spaces are proposed, which represents an overall parking ratio of 1.79 spaces per unit and, given the mix of unit types proposed, 0.90 spaces per bedroom.
 - Based on requirements within the *Folsom Municipal Code*, the proposed 72-unit project would be required to provide 108 parking spaces (1.5 spaces/unit).
 - The City's *Design Guidelines for Multi-Family Development* have more detailed standards, based on the number of bedrooms per unit. According to those standards, the proposed project would need to provide 140 parking spaces (i.e., 1.94 spaces/unit and 0.97 spaces/bedroom).
 - The proposed parking supply exceeds the City of Folsom Municipal Code requirements, but falls short of the City's *Design Guidelines for Multi-Family Development*.
 - The proposed parking supply exceeds the average and 85th-percentile apartment parking demand value documented in the *ITE Parking Generation* manual and is only slightly lower than the highest parking demand value presented there.
 - The proposed parking supply is slightly (about four percent) lower than the documented average parking supply on a "space per unit" basis documented in a recent analysis of 24 similar apartment projects in the Sacramento region. It is also somewhat lower than the average and median values in that study on a "space per bedroom" basis. However, the tenants of the proposed low-income apartment project could reasonably be expected to have lower vehicle ownership rates than were reflected in the Sacramento study.
- Consideration of all of the pertinent factors indicates that the proposed project will provide adequate parking to meet residents' and visitors' needs.



NOT TO SCALE



A

- Right turns in & out only
- Extend existing raised median (located west of driveway) to Oak Avenue Parkway (See Fig. 12)
- STOP-sign control on driveway
- No right-turn lane or taper needed
- Sight distance OK if exiting vehicle is approximately level
- Use only low-growing landscape material to west of driveway

B

- Right turns in & out only
- STOP-sign control on driveway
- No right-turn lane or taper needed
- Sight distance OK
- Use only low-growing landscape material to north of driveway

C

- Modify to allow U-turns on eastbound approach

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ACCESS SYSTEM RECOMMENDATIONS

FIGURE ES-1

INTRODUCTION

This report addresses the traffic impacts associated with the Parkway Apartments residential project in Folsom, California. The proposed project would be located on the south side of Blue Ravine Road, west of Oak Avenue Parkway. Figure 1 illustrates the location of the proposed project.

As directed by City of Folsom staff, this study analyzed traffic operations under the following five scenarios:

- Existing Conditions,
- Construction Year No Project Conditions,
- Construction Year Plus Project Conditions,
- Cumulative No Project Conditions, and
- Cumulative Plus Project Conditions.

This report supersedes a draft traffic impact analysis report completed on September 6, 2016. Included within this revised report are the following modifications:

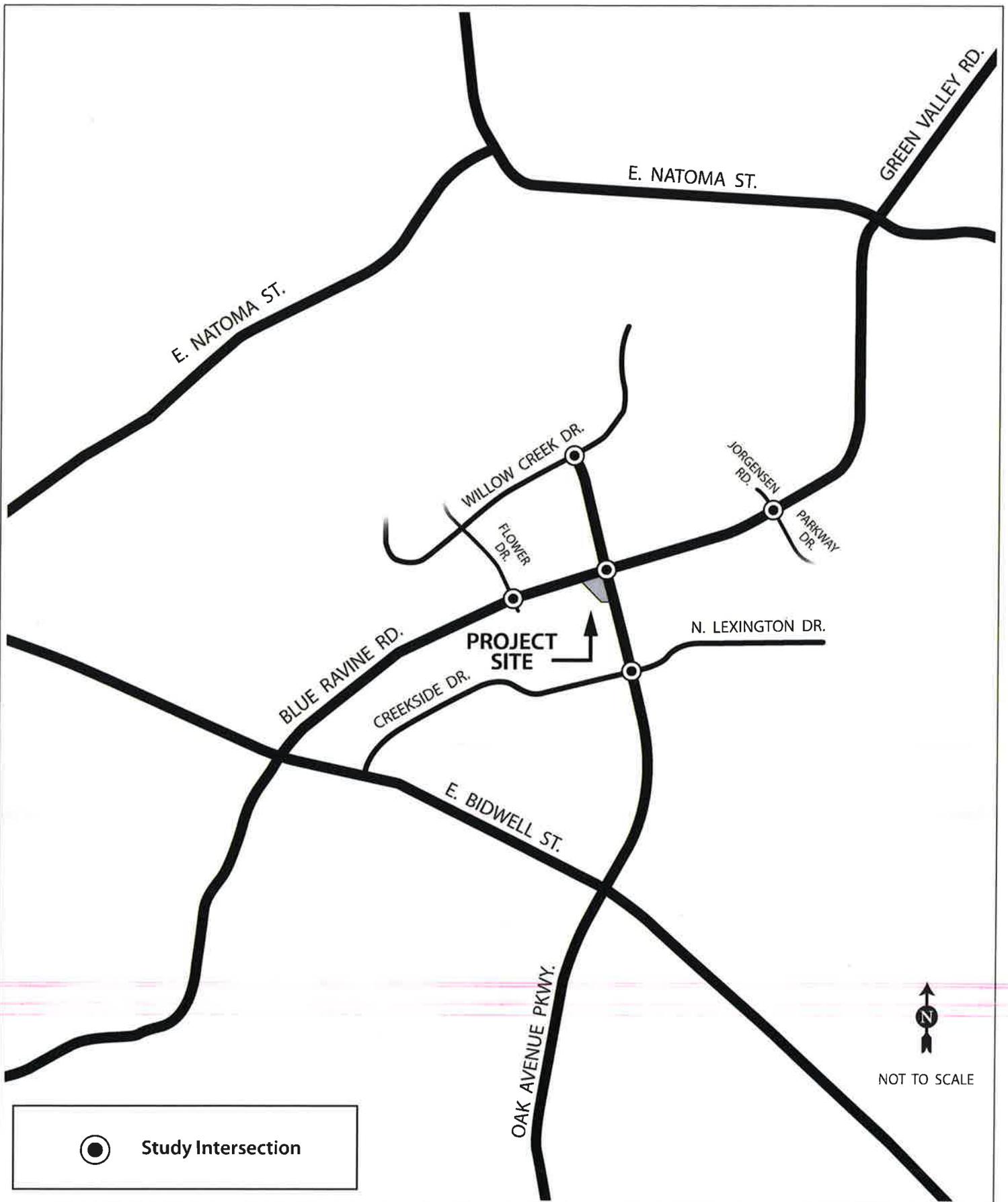
- Updated AM peak-period turning movement counts were performed at the five study intersections on January 24, 2017, a typical school day;
- Updated level of service calculations were performed at the study intersections;
- A new radar speed survey was performed on Blue Ravine Road in the vicinity of the project site;
- Accident data (2014 - 2016) was acquired from the City of Folsom for the intersections of Blue Ravine Road/Oak Avenue Parkway and Blue Ravine Road/Flower Drive; and
- A revised project access plan under which both project driveways would be restricted to right-turns-only has been proposed.

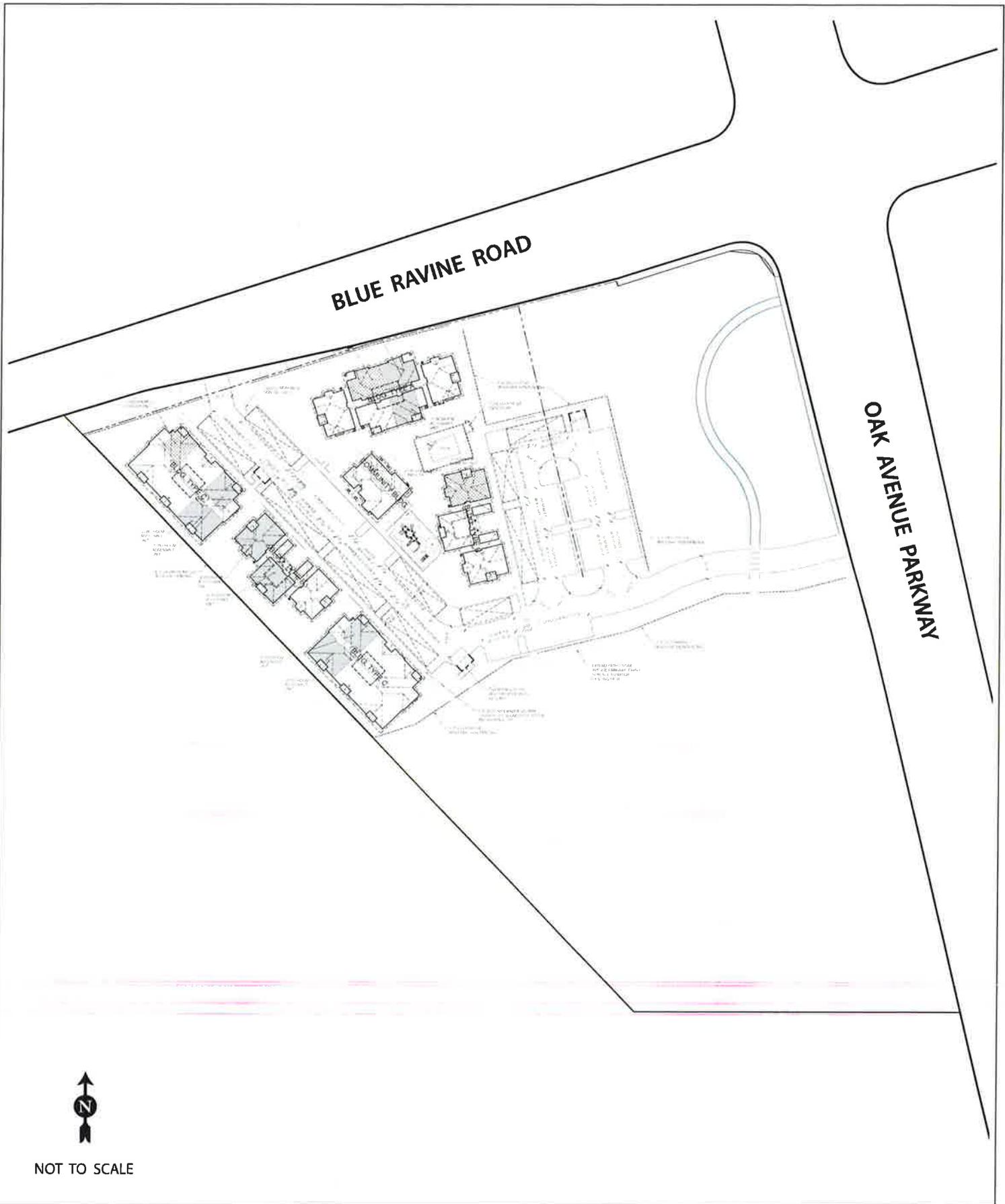
Project Description

The Parkway Apartments project is a proposed low-income, multi-family residential development, with 72 apartment units and 129 parking spaces. In addition, the project would include a swimming pool, a tot lot, and a 2,469-square-foot (SF) community building. It would be located on the northwesterly portion of a 10.14-acre parcel near the southwest corner of the intersection of Blue Ravine Road/Oak Avenue Parkway.

Vehicular access would be provided by a driveway on Blue Ravine Road near the west edge of the project site and a second driveway on Oak Avenue Parkway. Both driveways would be limited to right-turns only. In addition, a connection would be provided to an existing bike trail that runs along the south edge of the project site.

The project site plan is presented as Figure 2.





NOT TO SCALE

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PROJECT SITE PLAN

FIGURE 2

Study Area

Based on discussions with City of Folsom staff, the potential off-site impacts of the proposed project were evaluated at the following intersections:

- Oak Avenue Parkway/Willow Creek Drive,
- Blue Ravine Road/Flower Drive,
- Blue Ravine Road/Oak Avenue Parkway,
- Blue Ravine Road/Jorgensen Road/Parkway Drive, and
- Oak Avenue Parkway/Creekside Drive/North Lexington Drive.

The access system serving the proposed project was also evaluated in detail, particularly with respect to its ability to serve the proposed project safely and effectively.

Analysis Methodology

In accordance with the analysis procedures generally accepted in the City of Folsom, the following techniques were employed in conducting this study.

Intersection Operations

Intersection operations are typically described in terms of level of service (LOS), which is reported on a scale from LOS A (representing free-flow conditions) to LOS F (which represents substantial congestion and delay). The level of service designations are based on a quantitative calculation of vehicular delay at the intersection. The specific approach to estimating delay is based on procedures documented in the *Highway Capacity Manual 2010* (Transportation Research Board, Fifth Edition, December 2010), except as described below.

Signalized Intersections

With one exception, the signalized study intersections were analyzed using the “operational analysis” methodology presented in Chapter 18 of the *Highway Capacity Manual 2010 (HCM 2010)*. This methodology determines signalized intersection level of service by comparing the “average control delay per vehicle” to the thresholds shown in Table 1. Control delay represents the delay directly associated with the traffic signal. For this analysis, the level of service calculations were performed using the *Synchro 8* software package, which implements the intersection analysis procedures documented in the *HCM 2010*.

Because the *HCM 2010* does not accommodate analysis of intersections with U-turns, for the “construction year” and “cumulative” conditions scenarios (in which project-related U-turns will occur), the intersection of Blue Ravine Road/Oak Avenue Parkway was analyzed using the year 2000 version of the *Highway Capacity Manual*. Those calculations were also performed using the *Synchro 8* software package.

| Table 1 Level of Service Definitions Signalized Intersections | | |
|---|---|---|
| Level of Service | Description | Average Control Delay (Seconds/Vehicle) |
| A | Very low delay. Most vehicles do not stop | ≤ 10.0 |
| B | Slight delay. Generally good signal progression. | 10.1 – 20.0 |
| C | Increased number of stopped vehicles. Occasional cycle failures. | 20.1 - 35.0 |
| D | Noticeable congestion. Large proportion of vehicles stopped. | 35.1 – 55.0 |
| E | Operating conditions at or near capacity. Frequent cycle failure. | 55.1 - 80.0 |
| F | Oversaturation. Forced or breakdown flow. Extensive queuing. | > 80.0 |
| Reference: Transportation Research Board, <i>Highway Capacity Manual 2010</i> , Fifth Edition, December 2010. | | |

Unsignalized Intersections

The analysis of the unsignalized study intersections was conducted using the appropriate method documented in Chapter 19 of the *HCM 2010*. This method calculates average control delay for each minor movement but, in the case of “two-way-STOP-control” intersections, not for the intersection as a whole. Level of service results reported for two-way-STOP-control intersections (such as the project access intersections) are based upon the average control delay per vehicle for the worst-case minor movement, based on the criteria set forth in Table 2. In contrast to this, for “all-way-STOP-control” intersections, such as Oak Avenue Parkway/Willow Creek Drive, the *HCM 2010* methodology provides an average delay value for the entire intersection. For unsignalized intersections, control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The unsignalized study intersections were also analyzed using the *Synchro 8* software package, which performs level of service calculations in accordance with the *HCM 2010* procedures.

The unsignalized intersection analysis also considered whether the study location would meet the minimum requirements for installation of a traffic signal. The need for installation of a traffic signal at a given location is judged relative to a defined set of traffic signal “warrants.” The warrants applied in the State of California were established by Caltrans, based on essentially similar requirements documented in the *Manual on Uniform Traffic Control Devices* (MUTCD) published by the Federal Highway Administration (FHWA). The current signal warrants are documented in “Part 4 – Highway Traffic Signals” of the *California Manual on Uniform Traffic Control Devices*, dated November 7, 2014. Nine such warrants have been defined, although not all warrants are relevant to each case. This analysis was conducted using Warrant 3, the “Peak Hour” signal warrant.

| Table 2 Level of Service Definitions Unsignalized Intersections | | |
|---|---|---|
| Level of Service | Description | Average Control Delay (Seconds/Vehicle) |
| A | Little or no conflicting traffic for minor movements. | ≤ 10.0 |
| B | Drivers on minor movements begin to notice absence of available gaps. | 10.1 – 15.0 |
| C | Drivers on minor movements begin to experience delays waiting for adequate gaps. | 15.1 – 25.0 |
| D | Queuing occurs on minor movements due to a reduction in available gaps. | 25.1 – 35.0 |
| E | Extensive minor movement queuing due to insufficient gaps. | 35.1 – 50.0 |
| F | Insufficient gaps of adequate size to allow minor movement traffic demand to be accommodated. | > 50.0 |
| Reference: Transportation Research Board, <i>Highway Capacity Manual 2010</i> , Fifth Edition, December 2010. | | |

Sight Distance

To ensure that drivers will be able to enter and exit the site safely at the project access locations, a stopping sight distance analysis was conducted using parameters documented in *A Policy on Geometric Design of Highways and Streets* (American Association of State Highway and Transportation Officials, 2004) and the *Caltrans Highway Design Manual* (California Department of Transportation, Sixth Edition, May 7, 2012).

Queuing/Storage Length

To minimize the potential for queuing problems at the project driveways, the minimum recommended throat depth (MRTD) at each project access point was calculated using the probability-based methodology accepted by the City of Folsom. The intent of this analysis is to ensure that outbound vehicles have enough stacking distance, so that internal circulation aisles are not blocked. This minimizes the possibility that inbound vehicles will queue back onto the street. The queue length estimates considered here were developed within the intersection level of service calculation process, as described above.

Evaluation Criteria

Policy 17.17 of the *City of Folsom General Plan* identifies the minimum acceptable level of service for traffic operations at signalized intersections in the City. Specifically, this policy states:

“The City should strive to achieve at least a traffic Level of Service ‘C’ throughout the City. During the course of Plan buildout it may occur that temporarily higher Levels of Service result where roadway improvements have not been adequately

phased as development proceeds. However, this situation will be minimized based on annual traffic studies and monitoring programs.”

The City has defined appropriate standards of significance to reflect this policy, including criteria that address situations where the signalized intersection level of service is worse than LOS C under “no project” conditions. Those standards of significance are as follows:

- If the “no project” level of service is LOS C or better and the project-generated traffic causes the signalized intersection level of service to degrade to worse than LOS C (i.e., LOS D, E, or F), then the proposed project must implement mitigation measures to return the intersection to LOS C or better.
- If the “no project” level of service is worse than LOS C (i.e., LOS D, E, or F) and the project-generated traffic causes the overall average delay value at the signalized intersection to increase by five seconds or more, then the proposed project must implement mitigation measures to improve the intersection to the “no project” condition or better. It is not necessary to improve the signalized intersection to LOS C.
- If the “no project” level of service is worse than LOS C (i.e., LOS D, E, or F) and the project-generated traffic causes the overall average delay value at the signalized intersection to increase by less than five seconds, then the traffic impact is considered less-than-significant and no mitigation is required.

The City’s General Plan policy only applies to signal-controlled intersections. For this analysis, at the STOP-sign-controlled study intersection, a significant impact occurs if the project-generated traffic is sufficient to cause the intersection to meet the minimum requirements associated with the “Peak Hour Volume” warrant, in addition to the overall intersection delay and level of service criteria stated above.

EXISTING CONDITIONS

This section describes the roadway network serving the proposed project, as well as existing traffic operations at key intersections in the vicinity of the project site.

Key Roadways

The existing transportation system in the vicinity of the project site is illustrated on Figure 3. Shown there are the traffic lanes on the adjacent roadways, as well as existing facilities for pedestrians and bicyclists. Brief descriptions of the key roadways serving the project site are provided below.

Blue Ravine Road is an arterial roadway that runs diagonally through the City of Folsom, generally in a southwest to northeast direction. It extends from west of Folsom Boulevard to the intersection with East Natoma Street, where it becomes Green Valley Road and continues into El Dorado County. In the vicinity of the project site, it has two lanes in each direction, as well as a center left-turn lane and bike lanes. Blue Ravine Road has a 45 MPH speed limit.

Oak Avenue Parkway is a north-south, four-to-six lane arterial street that has Iron Point Road as its southern terminus. South of Blue Ravine Road, Oak Avenue Parkway has a 45 MPH speed limit and three lanes in each direction (plus bike lanes) separated by a landscaped median. North of Blue Ravine Road, it has two lanes in each direction, as well as bike lanes, a landscaped median, and a 35 MPH speed limit. Long-term plans call for extending Oak Avenue Parkway to the south, where it will have an interchange with U.S. Highway 50.

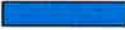
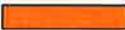
Blue Ravine Road Radar Speed Survey

In 2011, the City of Folsom performed a radar speed survey on Blue Ravine Road for use in establishing the current 45 MPH speed limit. To determine whether the travel speed has changed, MRO Engineers commissioned an updated radar speed survey, which was conducted on January 24, 2017. Table 3 compares the results of those two data collection efforts.

| Table 3 Blue Ravine Road Radar Speed Surveys | | | | |
|--|----------------------------|---|---------------|--------------------------|
| Survey | Current Posted Speed Limit | 85 th -Percentile Speed ¹ | Average Speed | 10 MPH Pace ² |
| City of Folsom ³ (Spring 2011) | 45 MPH | 50 MPH | 46 MPH | 41 – 50 MPH |
| MRO Engineers ⁴ (January 24, 2017) | | 50 MPH | 46.4 MPH | 42 – 51 MPH |
| Notes: | | | | |
| ¹ 85 percent of vehicles are traveling at or below this speed. | | | | |
| ² The 10 MPH range with the greatest number of occurrences. | | | | |
| ³ East Bidwell Street to Oak Avenue Parkway (Source: City Council Resolution No. 8840, Adopted May 10, 2011.) | | | | |
| ⁴ Flower Drive to Oak Avenue Parkway | | | | |



LEGEND

-  SIDEWALK / CROSSWALK
-  BIKE LANE / PATH
-  RAISED MEDIAN
-  TRAFFIC SIGNAL

As shown, the two radar speed surveys reveal virtually identical results. Both surveys found that the 85th-percentile speed on Blue Ravine Road is 50 MPH. That result indicates that 85 percent of the surveyed vehicles were traveling at 50 MPH or less. The average speed was about 46 MPH in both surveys, and the “10 MPH Pace” (i.e., the 10 MPH range with the greatest number of occurrences) is about the same in both surveys.

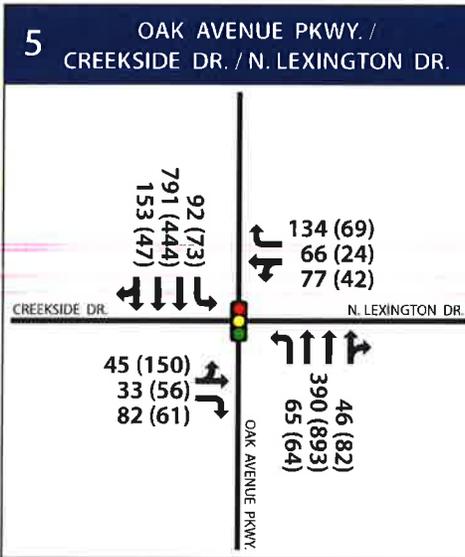
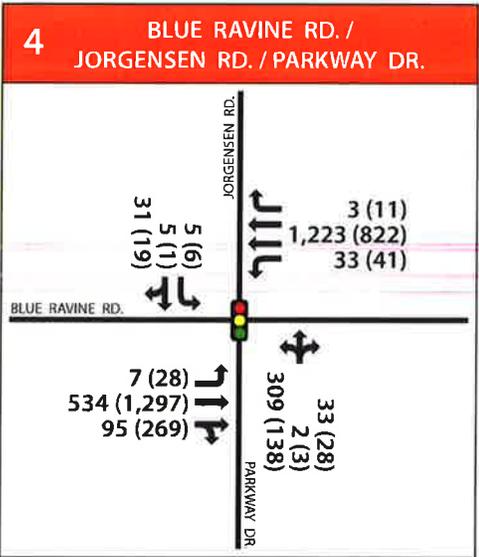
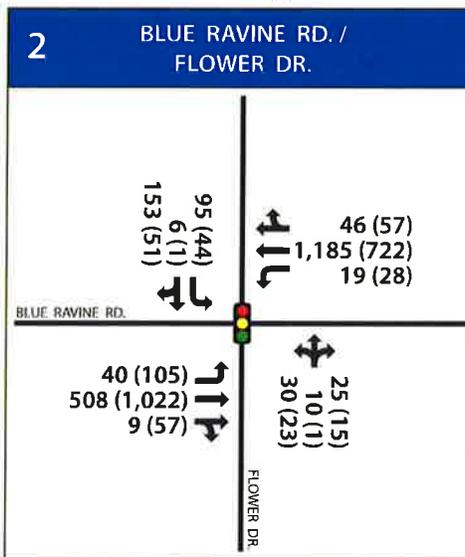
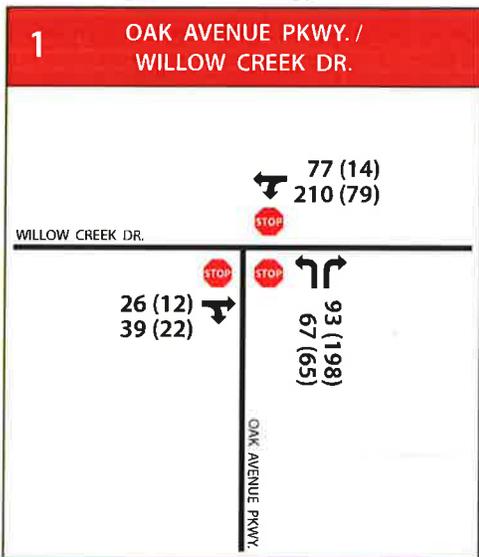
Existing Traffic Volumes

MRO Engineers, Inc., initially conducted weekday AM and PM peak-period turning movement counts at the study intersections on Tuesday, August 2, 2016. Because those counts were performed just before the start of the 2016 – 2017 school year, updated AM peak-period counts were subsequently performed on January 24, 2017, a typical school day. In consultation with the City of Folsom Traffic Engineer, it was determined that the updated AM peak-hour counts should be used in this analysis, as they were generally higher than the earlier counts, but new PM peak-period counts were not necessary, as minimal school-related traffic occurs in that time period. The counts at all study intersections included pedestrians and bicyclists in addition to motor vehicles. The updated peak-hour traffic volumes and existing intersection lane configurations are shown on Figure 4.

Existing Intersection Level of Service

Table 4 summarizes the existing weekday AM and PM peak hour levels of service at the study intersections. Appendix A contains the technical calculation sheets.

| Table 4 Level of Service Summary¹ Existing Conditions | | | | | |
|--|-----------------|----------------------|------------------|----------------------|-----|
| Intersection | Traffic Control | Weekday AM Peak Hour | | Weekday PM Peak Hour | |
| | | Delay ² | LOS ³ | Delay | LOS |
| Oak Avenue Parkway/Willow Creek Drive | All-Way STOP | 11.5 | B | 8.4 | A |
| Blue Ravine Road/Flower Drive | Signal | 12.4 | B | 8.0 | A |
| Blue Ravine Road/Oak Avenue Parkway | Signal | 21.8 | C | 19.4 | B |
| Blue Ravine Road/Jorgensen Road/Parkway Dr. | Signal | 19.4 | B | 15.9 | B |
| Oak Avenue Parkway/Creekside Drive/North Lexington Drive | Signal | 16.3 | B | 16.6 | B |
| Notes: | | | | | |
| ¹ Reference: Transportation Research Board, <i>Highway Capacity Manual 2010</i> , Fifth Edition, December 2010. | | | | | |
| ² Average control delay (seconds per vehicle). | | | | | |
| ³ Level of service. | | | | | |



LEGEND

- ### (###) AM (PM) PEAK HOUR TRAFFIC VOLUMES
- TURN LANE
- TRAFFIC SIGNAL
- STOP SIGN
- F** FREE RIGHT TURN

**PEAK HOUR TRAFFIC VOLUMES
 EXISTING CONDITIONS**

FIGURE 4

Weekday AM Peak Hour

All five study intersections operate at LOS C or better in the weekday AM peak hour. Four of the five locations are at LOS B, while Blue Ravine Road/Oak Avenue Parkway is at LOS C. Thus, all of the study locations conform to the City of Folsom *General Plan* policy calling for operation at LOS C or better.

Weekday PM Peak Hour

In the PM peak hour, all five study intersections operate at LOS A or B. Again, therefore, all of the study intersections conform to the City's minimum level of service requirement.

Blue Ravine Road Accident Records

Some residents of the area near the proposed project have expressed concern regarding traffic safety, particularly along Blue Ravine Road and at the Blue Ravine Road/Oak Avenue Parkway intersection. Table 5 summarizes accident data acquired from the City of Folsom for the 2014 – 2016 period for the section of Blue Ravine Road from (and including) the Flower Drive intersection to (and including) the Oak Avenue Parkway intersection. In general, the reported accidents occurred at the intersections, rather than on the road segment between the intersections.

Over the course of the three-year period, twelve accidents occurred at Blue Ravine Road/Oak Avenue Parkway, with the greatest number (five) in 2016. The most prevalent accident type was broadside collisions, which were often caused by signal violations (i.e., red-light running); five accidents of that type were reported over the three years evaluated. Three accidents involved collisions with fixed objects. In two of those three cases, the driver was found to be under the influence of drugs or alcohol.

At Blue Ravine Road/Flower Drive, six accidents were reported from 2014 through 2016. Half of those were rear-end collisions, all of which involved unsafe speed on the part of the "at fault" party.

It should be noted that the information provided here represents only accidents that were reported to the Folsom Police Department. Accidents that were not reported are not included. Any such accidents were likely to be minor, however, with property damage only and no injuries.

| Table 5 Accident Records Summary Blue Ravine Road | | | |
|--|--------------------------|---|----------------------------|
| Location | Accident Type | Other factors | Injuries/Fatalities |
| 2014 | | | |
| Blue Ravine Road/ Oak Avenue Parkway | Broadside | Signal violation | 2 / 0 |
| | Broadside | Signal violation | 1 / 0 |
| | Broadside | -- | 2 / 0 |
| Blue Ravine Road/ Flower Drive | Rear-end Collision | Unsafe speed | 1 / 0 |
| | Rear-end Collision | Unsafe speed | 0 / 0 |
| | Hit fixed object | Driving under drug influence | 1 / 0 |
| 2015 | | | |
| Blue Ravine Road/ Oak Avenue Parkway | Head-on | Signal violation | 2 / 0 |
| | Head-on/Hit fixed object | Driving under influence | 0 / 0 |
| | Broadside | -- | 0 / 0 |
| | Rear-end | Unsafe speed | 0 / 0 |
| Blue Ravine Road/ Flower Drive | Broadside | Signal violation | 2 / 0 |
| | Rear-end | Unsafe speed/Inattention | 1 / 0 |
| 2016 | | | |
| Blue Ravine Road/ Oak Avenue Parkway | Hit fixed object | Unsafe speed | 0 / 0 |
| | Hit fixed object | Driving under influence | 0 / 0 |
| | Hit Bicyclist | 12-year-old bicyclist on wrong side of road; Traveling wrong direction | 1 / 0 |
| | Rear-end | Hit & run | 0 / 0 |
| | Broadside | Signal violation | 1 / 0 |
| Blue Ravine Road/ Flower Drive | Hit fixed object | Driving under influence | 2 / 0 |
| 2014 – 2016 TOTAL | | | |
| Blue Ravine Road/ Oak Avenue Parkway | 12 Accidents | Broadside – 5 Hit Fixed Object – 3 Rear-end – 2 Head-on – 1 Hit Bicyclist – 1 | 9 Injuries 0 Fatalities |
| Blue Ravine Road/ Flower Drive | 6 Accidents | Rear-end – 3 Hit Fixed Object – 2 Broadside – 1 | 7 Injuries 0 Fatalities |
| Source: City of Folsom. | | | |

CONSTRUCTION YEAR NO PROJECT CONDITIONS

This section documents traffic operations in the anticipated construction year for the proposed project, excluding the traffic generated by the project itself. This scenario includes consideration of the traffic associated with other previously-approved and reasonably foreseeable developments throughout the City of Folsom, as identified by City staff.

Background Traffic Growth

To develop a meaningful estimate of “construction year” traffic conditions, MRO Engineers, Inc., estimated the volume of peak-hour traffic to be generated by a number of related projects in the vicinity of the proposed project, as directed by City of Folsom staff. The specific land use assumptions for each of the related projects were confirmed with City of Folsom staff prior to initiating the detailed analyses. Table 6 lists the 33 projects included in this analysis scenario.

As summarized in Appendix B, the related projects listed below will generate a total of almost 5,500 AM peak hour trips and over 7,300 PM peak hour trips. Where possible, the related project trips were distributed and assigned to the City of Folsom road network in accordance with information presented in previous traffic analyses conducted within the city. Of course, not all of the related project-generated trips will pass through the study area for this analysis. Furthermore, based on discussions with City staff, it was determined that little, if any, development would be complete in the Folsom Plan Area (i.e., the annexation area south of Highway 50) within the construction year time frame. Consequently, none of the traffic associated with the Russell Ranch, Mangini Ranch or Hillsborough Subdivision projects was added to the study intersections.

In addition to the traffic associated with the 33 related projects, a three percent growth factor was applied to existing traffic volumes to ensure a conservative estimate of construction year conditions.

| Table 6 Related Projects¹ | | | |
|---|--|--------------------------|---|
| Project | Land Use | Size | Location |
| Folsom Pointe Highway Commercial | Highway Commercial Center ² | | East side of East Bidwell St., south of Iron Point Rd. |
| Broadstone Park Professional Center | Office | 15,000 SF ^{3,4} | South side of Iron Point Road east of McAdoo Drive |
| Palladio at Broadstone | Retail | 220,000 SF ⁴ | Bounded by Iron Point Road, East Bidwell Street, and Broadstone Parkway |
| Island at Parkshore | Residential | 315 DU | Southwest of Parkshore Dr. in Silverbrook Island area |
| Broadstone Crossing Parcel 1 | One Hotel Three Restaurants | 114 Rooms 22,230 SF | Southwest quadrant of Iron Point Road/Cavitt Drive |
| La Collina dal Lago | Single-Family Residential | 30 DU ⁶ | East Natoma Street west of Blue Ravine Road/Green Valley Road |
| Empire Ranch | Single-Family Residential | 200 DU ⁶ | East Natoma Street east of Blue Ravine Road/Green Valley Rd. |

| Table 6 Related Projects¹ | | | |
|---|-------------------------------|----------------------|---|
| Project | Land Use | Size | Location |
| Montara Grove | Office | 32,000 SF | South side of East Natoma Street at Prison Road |
| Masjid Bilal Mosque | Church and School | 31,668 SF | Southeast corner of Sibley Street/Levy Road |
| Psychiatric Services Unit Office & Treatment Facility | Medical Facility | 17,395 SF | California State Prison - Sacramento |
| Folsom Women's Facility | Correctional Facility | 403 Female Offenders | Folsom State Prison |
| Addison Place | Single-Family Residential | 10 DU ⁶ | Southeast quadrant of Sibley Street/Glenn Drive |
| Fire and Rain Mixed-Use Building | Retail, Office & Condominiums | 8,313 SF | 607 Sutter Street |
| Treehouse West Commercial Center | Retail | 3,595 SF | Southwest Quadrant of Iron Point Road and Barnhill Drive |
| 701 Bidwell Street Commercial Center | Office & Retail | 7,791 SF | 701 Bidwell Street |
| Parkway Villages H1 & H2 | Single-Family Residential | 16 DU | North side of Silberhorn Drive, west of Golf Links Drive |
| The Commons at Prairie City | Senior Residential Facility | 131 Units | Southeast quadrant of Prairie City Road/Willard Drive |
| Cornerstone Dental Center | Medical Office | 14,000 SF | 2301 East Bidwell Street |
| Lifetime Fitness | Fitness Facility | 116,636 SF | 110 Serpa Way |
| The Canyon | Single-Family Residential | 11 DU | Northwest corner -- Orangevale Avenue and American River Canyon Drive South |
| Leidesdorff Village | Condominium | 56 DU | 1108 Sutter Street |
| Superior Self Storage | Self-Storage Facility | 124,310 SF | 7700 Folsom-Auburn Road |
| Harvest Subdivision | Single-Family Residential | 116 DU | North Side of East Natoma Street across from Bowen Drive |
| Russell Ranch Subdivision | Single-Family Residential | 875 DU | Folsom Plan Area (East) |
| Mangini Ranch Subdivision | Single-Family Residential | 826 DU | Folsom Plan Area (West) |
| Hillsborough Subdivision | Single-Family Residential | 2,103 DU | Folsom Plan Area (Central) |
| Veranda Subdivision | Single-Family Residential | 63 DU | Southwest quadrant of East Natoma Street/Golf Links Drive/Bonhill Drive |
| Broadstone Apartments | Multi-Family Residential | 300 DU | Southwest corner - Broadstone Parkway and Cavitt Drive |

| Table 6 Related Projects¹ | | | |
|--|--|------------------------------|---|
| Project | Land Use | Size | Location |
| Iron Point Retirement Community | Assisted Living | 126 DU | Iron Point Road, south side near Rowberry Drive |
| The Pique at Iron Point Apartments | Multi-Family Residential | 327 DU | Iron Point Road between Serpa Way and Carpenter Hill Rd. |
| CountryHouse at Broadstone | Memory Care Facility | 36,668 SF (45 DU/47 Beds) | Southeast quadrant of Iron Point Road/Oak Avenue Parkway |
| Cresleigh Ravine/Campus at Iron Point | Single-Family and Multi-Family Residential | 53 SF 230 MF | Willard Drive at Iron Point Rd. |
| Starbucks | Coffee Shop | 2,200 SF | Southwest quadrant of East Natoma Street/Blue Ravine Road |
| Notes: ¹ Reference: City of Folsom, Community Development Department ² Three unbuilt pads (two restaurants and one retail building). ³ Square feet. ⁴ Approximate unoccupied square footage. ⁵ Dwelling units. ⁶ Approximate number of unbuilt dwelling units. | | | |

Construction Year No Project Traffic Volumes

The peak-hour traffic generated by the related projects described above was added to the factored existing traffic volumes at the study intersections to develop the “Construction Year No Project” traffic scenario. Figure 5 illustrates the traffic estimates for the peak-hour study periods. Also shown there are the intersection lane configurations for Construction Year conditions, which are unchanged from Existing Conditions.

Intersection Level of Service

Table 7 summarizes the results of the level of service calculations for the signalized study intersections under Construction Year No Project conditions. Appendix C contains the technical calculations.

Weekday AM Peak Hour

In the AM peak hour, the study intersections are all expected to operate at LOS B or C. Thus, all of the study locations are projected to conform to the City’s level of service policy under Construction Year No Project conditions.

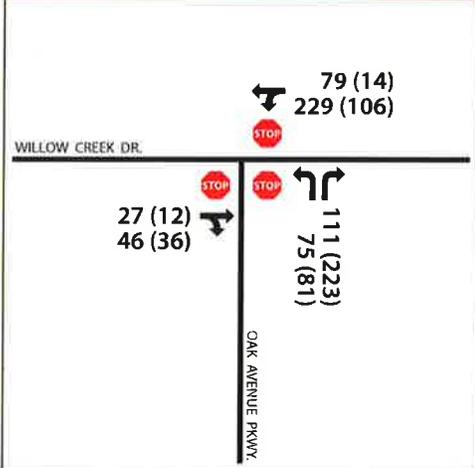
Weekday PM Peak Hour

The study intersection of Blue Ravine Road/Oak Avenue Parkway will operate at LOS C under this analysis scenario, while the other study locations will be at LOS A or B. All of the study intersections will conform to the City’s level of service policy.

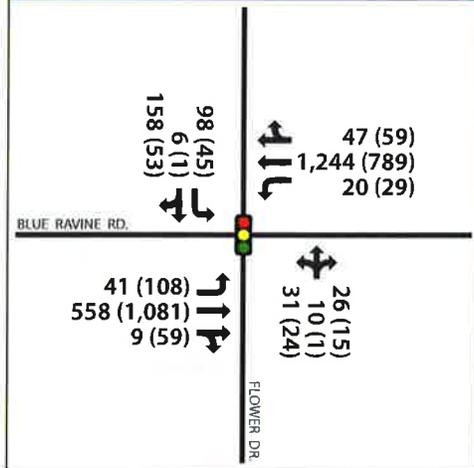



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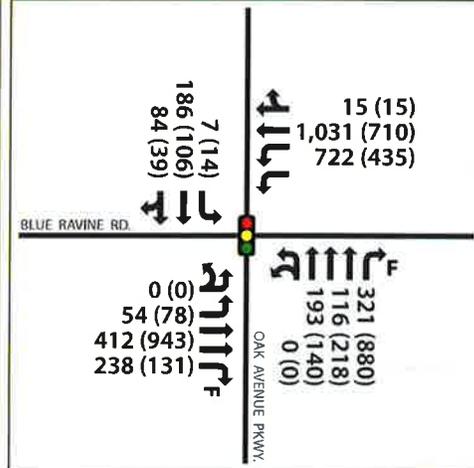
1 OAK AVENUE PKWY. / WILLOW CREEK DR.



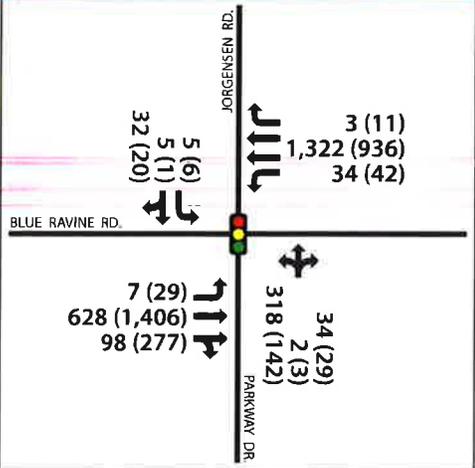
2 BLUE RAVINE RD. / FLOWER DR.



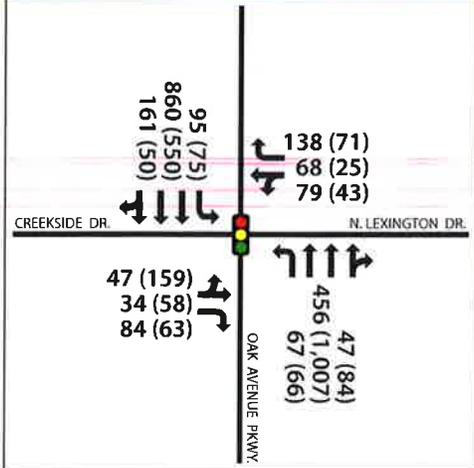
3 BLUE RAVINE RD. / OAK AVENUE PKWY.



4 BLUE RAVINE RD. / JORGENSEN RD. / PARKWAY DR.



5 OAK AVENUE PKWY. / CREEKSIDE DR. / N. LEXINGTON DR.



LEGEND

- ### (###) AM (PM) PEAK HOUR TRAFFIC VOLUMES
-  TURN LANE
-  TRAFFIC SIGNAL
-  STOP SIGN
- F** FREE RIGHT TURN


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 Auburn, CA 95603
 Phone (916) 783-3838
 www.mroengineers.com

**PEAK HOUR TRAFFIC VOLUMES
 CONSTRUCTION YEAR NO PROJECT**

FIGURE 5

| Table 7 Level of Service Summary¹ Construction Year No Project Conditions | | | | | |
|---|-----------------|----------------------|------------------|----------------------|-----|
| Intersection | Traffic Control | Weekday AM Peak Hour | | Weekday PM Peak Hour | |
| | | Delay ² | LOS ³ | Delay | LOS |
| Oak Avenue Parkway/Willow Creek Drive | All-Way STOP | 12.5 | B | 8.9 | A |
| Blue Ravine Road/Flower Drive | Signal | 13.0 | B | 8.3 | A |
| Blue Ravine Road/Oak Avenue Parkway ⁴ | Signal | 24.3 | C | 22.0 | C |
| Blue Ravine Road/Jorgensen Road/Parkway Dr. | Signal | 21.2 | C | 18.0 | B |
| Oak Avenue Parkway/Creekside Drive/North Lexington Drive | Signal | 16.6 | B | 17.2 | B |

Notes:

¹ Reference: Transportation Research Board, *Highway Capacity Manual 2010*, Fifth Edition, December 2010.

² Average control delay (seconds per vehicle).

³ Level of service.

⁴ Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.

CONSTRUCTION YEAR PLUS PROJECT CONDITIONS

This section documents the impacts of the proposed project on traffic conditions in the assumed construction year. To evaluate off-site impacts, the volume of traffic generated by the proposed project was estimated and that traffic was assigned to the adjacent street system. The levels of service at the study intersections were then analyzed for the AM and PM peak-hour periods.

Project Description

As described earlier, the proposed project will consist of 72 low-income apartment units to be constructed on the south side of Blue Ravine Road, west of Oak Avenue Parkway.

Proposed Access System

Vehicular access to and from the proposed Parkway Apartments project would be provided by a driveway on Blue Ravine Road near the western edge of the site, as well as a second driveway on Oak Avenue Parkway south of Blue Ravine Road. Both driveways would be controlled by STOP signs and would be restricted to right-turns only.

Trip Generation

The AM and PM peak-hour trip generation estimates for the proposed project were developed using information presented in the *Trip Generation Manual* (Institute of Transportation Engineers, Ninth Edition, 2012). Table 8 summarizes the resulting trip generation estimates for the proposed project. In the AM peak hour, the proposed project is expected to generate a total of 37 trips, with 7 inbound and 30 outbound. The PM peak hour trip generation is estimated to be 45 trips, with 29 inbound and 16 outbound. About 480 daily trips are projected, evenly split between inbound and outbound.

Although some evidence exists to suggest that low-income tenants might generate less traffic than tenants of market-rate apartment projects, no adjustment was applied to the trip generation estimates to reflect this possibility.

| Table 8 Trip Generation Estimate¹ | | | | | | | | |
|---|------------------------|----------------|--------------|------|-------|--------------|------|-------|
| Land Use | | Daily Trips | AM Peak Hour | | | PM Peak Hour | | |
| | | | In | Out | Total | In | Out | Total |
| Parkway Apartments (72 Low-Income, Multi-Family Residential Units) | Trip Rate ² | 6.65 | 0.10 | 0.41 | 0.51 | 0.40 | 0.22 | 0.62 |
| | Trips | 480 | 7 | 30 | 37 | 29 | 16 | 45 |
| Notes: | | | | | | | | |
| ¹ Reference: Institute of Transportation Engineers, <i>Trip Generation Manual</i> , Ninth Edition, 2012. | | | | | | | | |
| ² ITE Land Use Code 220 – Apartment; Trips per dwelling unit. | | | | | | | | |

Trip Distribution

The geographic distribution of the project-generated traffic was based primarily on existing traffic patterns in the vicinity of the proposed project, as well as information presented in previous traffic studies for nearby projects. As shown on Figure 6, about 40 percent of the project-related trips are expected to be oriented to/from the east on Blue Ravine Road, while about 30 percent will travel to/from the west. Another 25 percent will head south. The remaining 5 percent of project traffic will be oriented to and from the north on Oak Avenue Parkway and Willow Creek Drive.

Project Traffic Assignment

The project-generated peak-hour traffic volumes were added to the “Construction Year No Project” traffic to develop the “Construction Year Plus Project” scenario. Those estimated traffic volumes are shown on Figure 7, which also illustrates the assumed intersection lane configurations.

Intersection Level of Service

Table 9 presents the peak hour levels of service at each study intersection (including the project access locations) under Construction Year Plus Project conditions. Appendix D contains the technical calculation worksheets.

Weekday AM Peak Hour

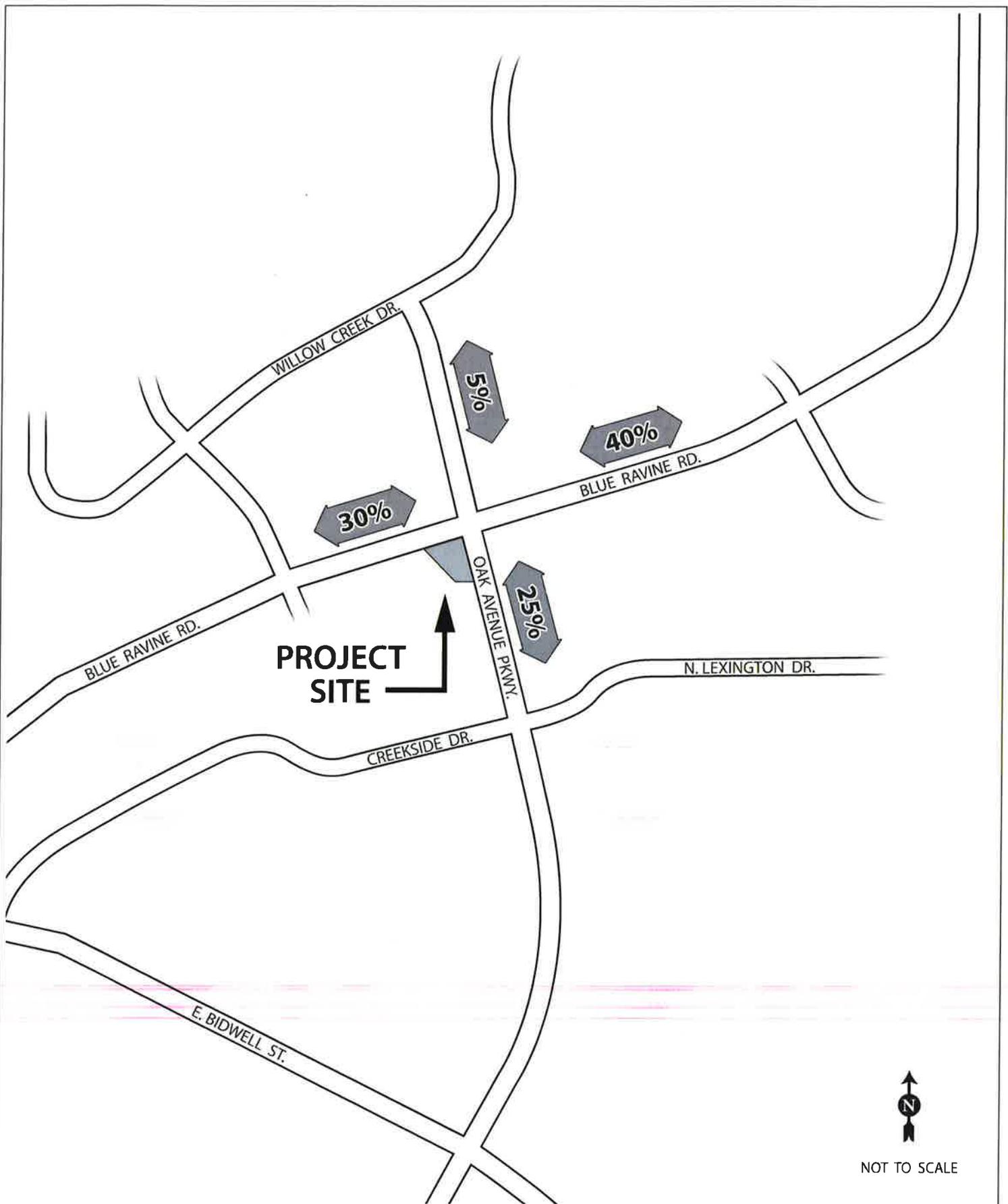
In the AM peak hour, addition of the project-generated traffic will cause little or no change in the estimated delay at the study intersections, and no change in level of service is projected. They will continue to operate at LOS B or C. Both Project Driveway intersections will operate at LOS B. Therefore, all of the study locations will conform to the City’s level of service policy (i.e., LOS C or better). Further, none of the stop-sign-controlled intersections will meet the minimum requirements of the Caltrans Peak-Hour Volume signal warrant.

Overall, the proposed project’s traffic impacts are considered less-than-significant in the AM peak hour under this analysis scenario.

Weekday PM Peak Hour

In the PM peak hour, the project-generated traffic will again result in minimal changes in the estimated delay value at the study intersections, with no change in level of service. All of the study intersections will operate at LOS C or better. The level of service at both Project Driveway intersections is projected to be LOS B. The unsignalized study intersections all fall far short of meeting the Caltrans Peak-Hour Volume warrant.

As in the AM peak hour, the project-related impact is considered less than significant at the study locations in the PM peak hour.

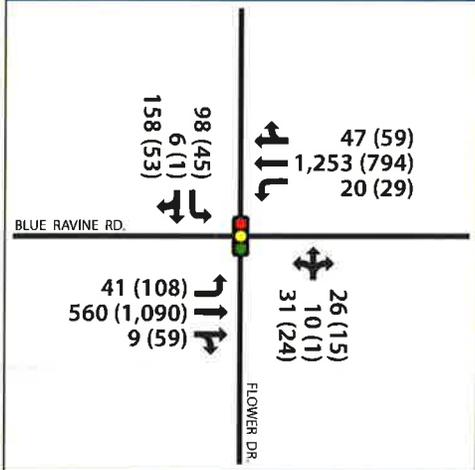




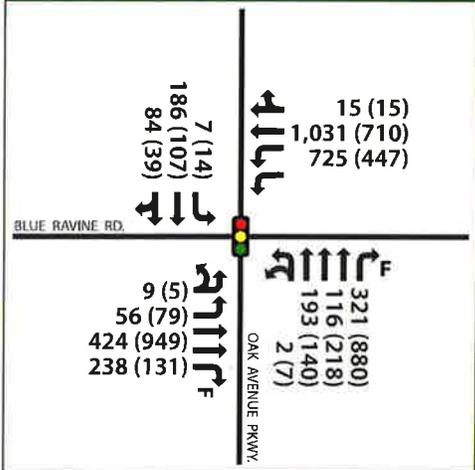
1 OAK AVENUE PKWY. / WILLOW CREEK DR.



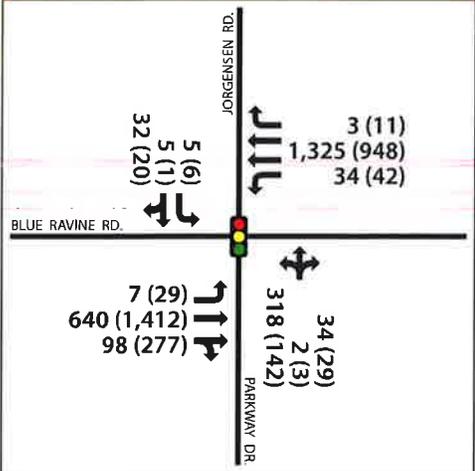
2 BLUE RAVINE RD. / FLOWER DR.



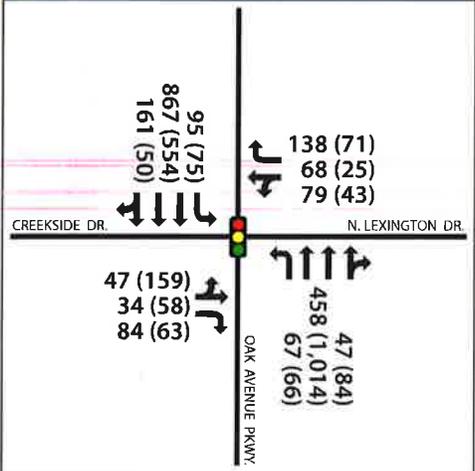
3 BLUE RAVINE RD. / OAK AVENUE PKWY.



4 BLUE RAVINE RD. / JORGENSEN RD. / PARKWAY DR.



5 OAK AVENUE PKWY. / CREEKSIDE DR. / N. LEXINGTON DR.



LEGEND

- ### (###) AM (PM) PEAK HOUR TRAFFIC VOLUMES
- TURN LANE
- TRAFFIC SIGNAL
- STOP SIGN
- F** FREE RIGHT TURN

**Table 9
Level of Service Summary¹
Construction Year Plus Project Conditions**

| Intersection | Traffic Control | Weekday AM Peak Hour | | | | Weekday PM Peak Hour | | | |
|--|------------------------|------------------------------|------------------|-----------------------------|-----|------------------------------|------|-----------------------------|-----|
| | | Construction Year No Project | | Construction Year + Project | | Construction Year No Project | | Construction Year + Project | |
| | | Delay ² | LOS ³ | Delay | LOS | Delay | LOS | Delay | LOS |
| Oak Avenue Parkway/Willow Creek Drive | All-Way STOP | 12.5 | B | 12.6 | B | 8.9 | A | 8.9 | A |
| Blue Ravine Road/Flower Drive | Signal | 13.0 | B | 13.1 | B | 8.3 | A | 8.3 | A |
| Blue Ravine Road/Oak Avenue Parkway ⁴ | Signal | 24.3 | C | 24.6 | C | 22.0 | C | 22.3 | C |
| Blue Ravine Road/Jorgensen Road/Parkway Dr. | Signal | 21.2 | C | 21.7 | C | 18.0 | B | 18.1 | B |
| Oak Avenue Parkway/Creekside Drive/North Lexington Drive | Signal | 16.6 | B | 16.6 | B | 17.2 | B | 17.2 | B |
| Blue Ravine Road/Project Driveway | STOP-Sign ⁵ | N.A. ⁶ | N.A. | 11.2 | B | N.A. | N.A. | 13.9 | B |
| Oak Avenue Parkway/Project Driveway | STOP-Sign ⁵ | N.A. | N.A. | 14.9 | B | N.A. | N.A. | 11.9 | B |

Notes:
¹ Reference: Transportation Research Board, *Highway Capacity Manual 2010*, Fifth Edition, December 2010.
² Average control delay (seconds per vehicle).
³ Level of service.
⁴ Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
⁵ Worst-case minor movement delay shown for STOP-sign-controlled intersection.
⁶ Not applicable. Intersection does not exist under "no project" conditions.

Mitigation Measures

All of the study intersections will continue to operate at acceptable levels of service under Construction Year Plus Project conditions. Therefore, the project's impact is less than significant and no off-site mitigation measures are needed with the proposed project.

CUMULATIVE CONDITIONS ANALYSIS

This section describes the results of the analysis of study area traffic operations under cumulative conditions in the weekday AM and PM peak hours. This analysis reflects the level of development anticipated throughout the City of Folsom, including the Folsom Sphere of Influence (SOI) annexation area and the entire Sacramento region, through the year 2035. The traffic volume projections were based on the SACMET travel demand forecasting model developed and maintained by the Sacramento Area Council of Governments (SACOG).

Analyses are presented for two scenarios: Cumulative No Project conditions and Cumulative Plus Project conditions, reflecting the addition of the traffic generated by the proposed project to the “no project” volumes. To ensure consistency with other ongoing or recently-conducted traffic analyses in Folsom, the future year traffic forecasts employed in this analysis are based on information developed in connection with the traffic analysis for the SOI annexation process. That traffic analysis is presented in the environmental documentation for the annexation project. (Reference: AECOM and RMC Water and Environmental, *Public Draft EIR/EIS – Folsom South of U.S. 50 Specific Plan Project*, June 2010.)

Planned Roadway Improvements

Between now and the year 2035, a variety of major transportation system improvements will be implemented in the Folsom area. These improvements, which are reflected in the future year traffic forecasts used in this analysis, include the following:

- Construction of a new interchange at U.S. Highway 50/Oak Avenue Parkway,
- Construction of the U.S. Highway 50/Empire Ranch Road interchange,
- Addition of the third through lane in both directions on Iron Point Road (where necessary), and
- Addition of a third through lane in each direction on East Bidwell Street (where necessary).

In addition, the traffic projections reflect completion of all roadway system improvements within the Folsom Plan Area Specific Plan, as well as the regional transportation system improvements identified in the SACOG Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS).

The planned construction of the new Highway 50 freeway interchange at Oak Avenue Parkway may alter traffic flow patterns in the study area. This shift in traffic will be reflected in a modified trip distribution for cumulative conditions.

Land Use Forecasts

The travel demand forecasts developed for the Folsom SOI project, which serve as the basis for the future traffic volumes used in this analysis, assumed the following land uses in the 3,584-acre SOI area:

- 11,340 - 14,630 residential dwelling units,
- 295 acres of office/business/professional and retail/commercial uses,
- 297 acres of schools and City parks, and
- 1,075 acres of open space.

In addition, the future year land use estimates for the Sacramento region included in the SACMET travel demand forecasting model were assumed.

Cumulative (2035) No Project Conditions

The year 2035 traffic volumes for Cumulative No Project conditions were derived from traffic forecasts developed as part of the Folsom SOI project. Because the SOI traffic projections were not prepared on a city-wide basis, that information was used to develop a growth factor, which was applied to the roadway system in the vicinity of the project site. Specifically, the peak-hour traffic volume projections for the intersection of Blue Ravine Road/Oak Avenue Parkway were compared to the existing peak-hour traffic volumes at that location (as documented in the SOI analysis). This comparison revealed an average growth rate at that intersection of just under three percent per year. For this analysis, therefore, an average annual growth rate of three percent was applied to the existing peak-hour turning movement volumes at the study intersections to estimate the future year cumulative traffic volumes. This represents total traffic growth of 57 percent through the year 2035 (i.e., 19 years at 3.0 percent per year), which is believed to represent a conservative estimate of future traffic volumes.

Figure 8 illustrates the Cumulative No Project peak hour traffic volumes derived for this study. Also shown are the intersection lane configurations assumed for year 2035 conditions; based on input from City staff, no intersection improvements are assumed.

Intersection Level of Service

Table 10 summarizes the AM and PM peak hour intersection level of service results for Cumulative No Project conditions. The technical calculation worksheets are presented in Appendix E.

Weekday AM Peak Hour

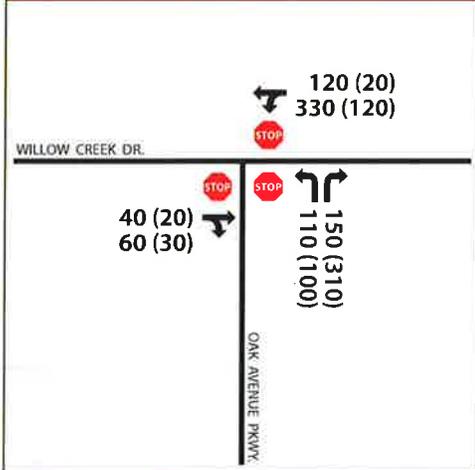
Three of the study intersections are projected to operate at LOS C, thereby conforming to the City of Folsom level of service policy. However, two study intersections are projected to operate at LOS D (Blue Ravine Road/Oak Avenue Parkway and Blue Ravine Road/Jorgensen Road/Parkway Drive), which falls short of meeting the City policy.

Weekday PM Peak Hour

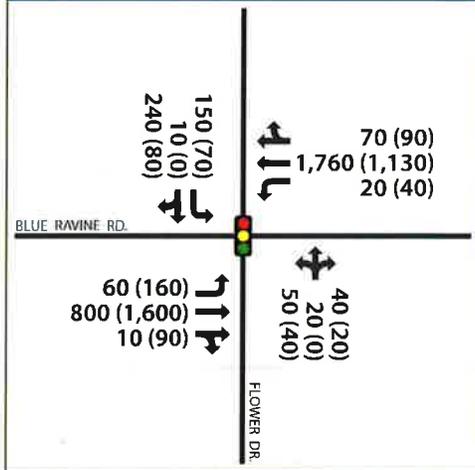
In the PM peak hour, the intersection of Blue Ravine Road/Oak Avenue Parkway is expected to operate at LOS D, thereby failing to conform to the City's LOS C policy. The other four study locations are projected to be at LOS C or better, which is acceptable under City policy.



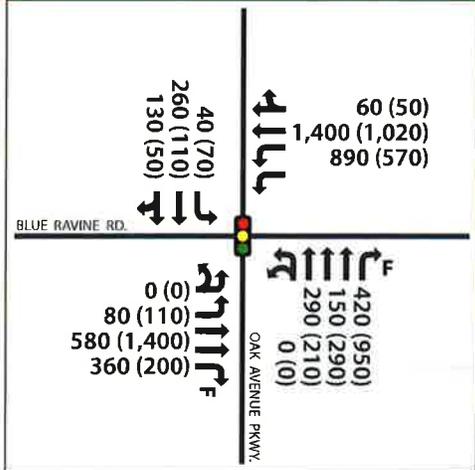
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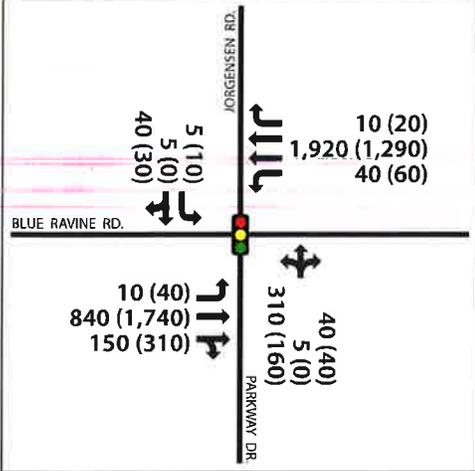
2 BLUE RAVINE RD. / FLOWER DR.



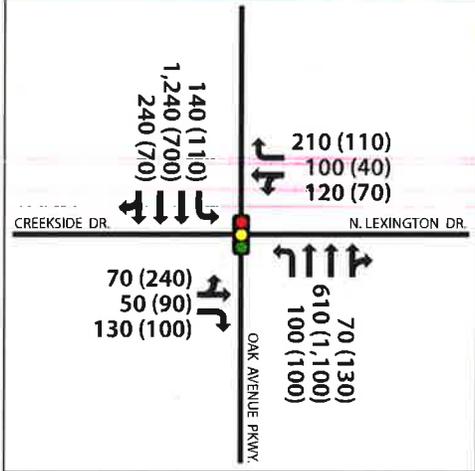
3 BLUE RAVINE RD. / OAK AVENUE PKWY.



4 BLUE RAVINE RD. / JORGENSEN RD. / PARKWAY DR.



5 OAK AVENUE PKWY. / CREEKSIDE DR. / N. LEXINGTON DR.



LEGEND

(###) AM (PM) PEAK HOUR TRAFFIC VOLUMES

TURN LANE

TRAFFIC SIGNAL

STOP SIGN

F FREE RIGHT TURN

| Table 10 Level of Service Summary¹ Cumulative No Project Conditions | | | | | |
|---|-----------------|----------------------|------------------|----------------------|-----|
| Intersection | Traffic Control | Weekday AM Peak Hour | | Weekday PM Peak Hour | |
| | | Delay ² | LOS ³ | Delay | LOS |
| Oak Avenue Parkway/Willow Creek Drive | All-Way STOP | 16.4 | C | 9.9 | A |
| Blue Ravine Road/Flower Drive | Signal | 27.6 | C | 13.7 | B |
| Blue Ravine Road/Oak Avenue Parkway ⁴ | Signal | 35.9 ⁵ | D | 41.3 | D |
| Blue Ravine Road/Jorgensen Road/Parkway Dr. | Signal | 36.1 | D | 34.3 | C |
| Oak Avenue Parkway/Creekside Drive/North Lexington Drive | Signal | 26.0 | C | 25.8 | C |

Notes:

¹ Reference: Transportation Research Board, *Highway Capacity Manual 2010*, Fifth Edition, December 2010.

² Average control delay (seconds per vehicle).

³ Level of service.

⁴ Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.

⁵ Shaded cell denotes unacceptable level of service.

Cumulative (2035) Plus Project Conditions

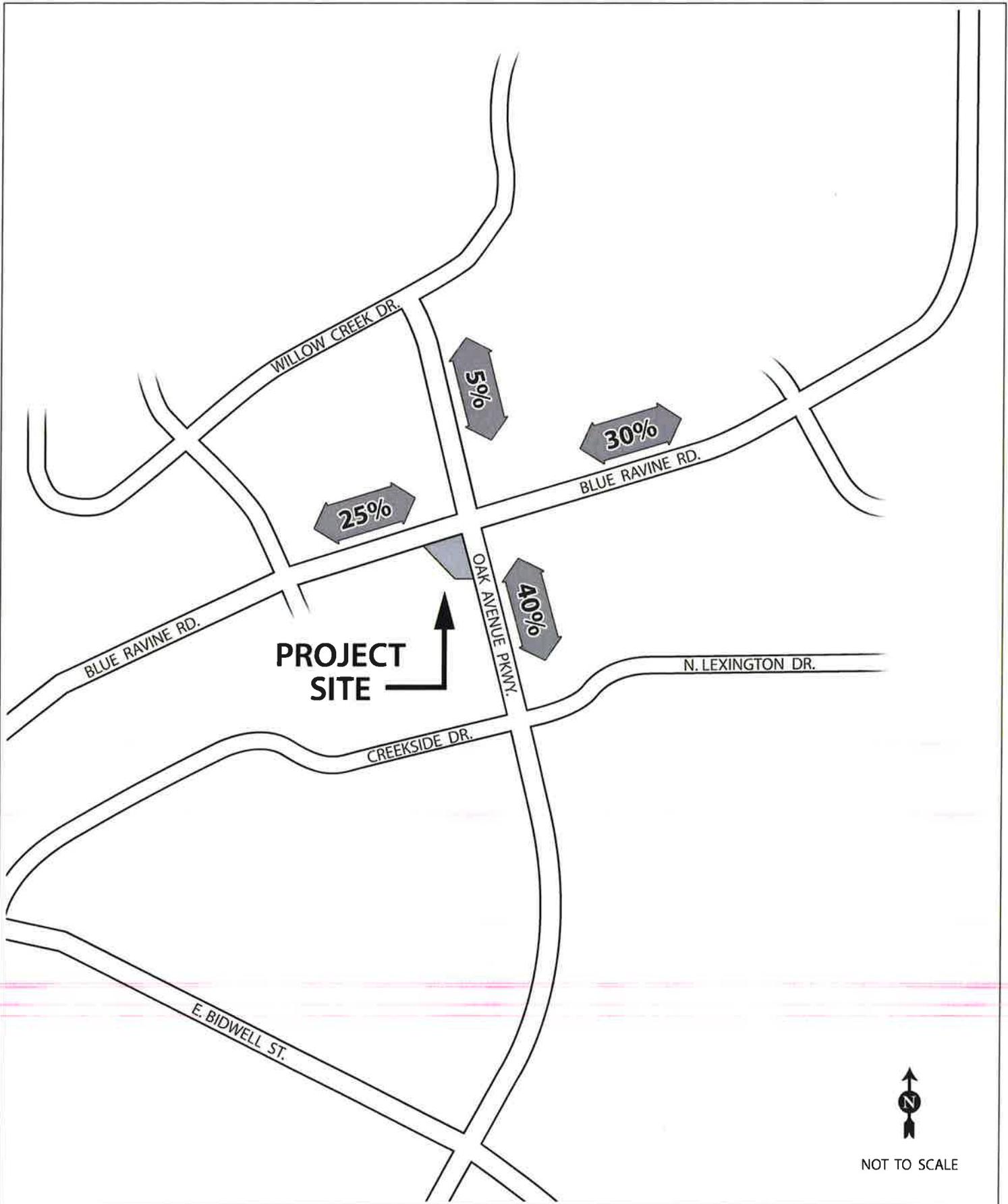
The following sections address the effects of adding the project-generated traffic to the Cumulative No Project volumes derived above.

Project Trip Generation

As described in the “construction year” conditions section, the proposed project is expected to generate 37 AM peak hour trips (7 inbound and 30 outbound) and 45 PM peak hour trips (29 inbound and 16 outbound).

Project Trip Distribution

The long-term geographic distribution of the project-generated traffic was evaluated to determine whether the orientation of those trips would change over time and, therefore, differ from what was assumed for “construction year” conditions. Based on that evaluation, it was determined that implementation of the SOI land uses and the future roadway network would alter the project’s trip distribution to some degree. The trip distribution illustrated on Figure 9 was applied to the analysis of cumulative conditions. As shown there, an additional 15 percent of project traffic is expected to be oriented to/from the south on Oak Avenue Parkway, with slightly lower percentages in each direction on Blue Ravine Road.



Intersection Traffic Volumes

Using the project trip generation and trip distribution information described above, the project-related trips were assigned to the future road network and added to the Cumulative No Project volumes. The Cumulative Plus Project traffic volumes for the weekday AM and PM peak hours are illustrated on Figure 10.

Intersection Level of Service

Table 11 presents the results of the intersection level of service analysis for the Cumulative Plus Project scenario. Appendix F contains the level of service calculation worksheets.

Weekday AM Peak Hour

As under Cumulative No Project conditions, three of the study intersections will conform to the City's LOS C policy while two locations will be at LOS D, which is considered unacceptable. No project-related change in level of service is projected, and the incremental increases in delay attributable to project-generated traffic will be less than the City's 5.0 seconds per vehicle significance threshold; the maximum project-related delay increment is projected to be 0.8 seconds per vehicle.

The project's Blue Ravine Road access intersection is projected to operate at LOS B, and the project driveway intersection on Oak Avenue Parkway is projected to operate at LOS C in this time period. The traffic volumes at both driveway intersections will be insufficient to meet the Caltrans Peak Hour signal warrant.

Therefore, the project's impact is considered less than significant.

Weekday PM Peak Hour

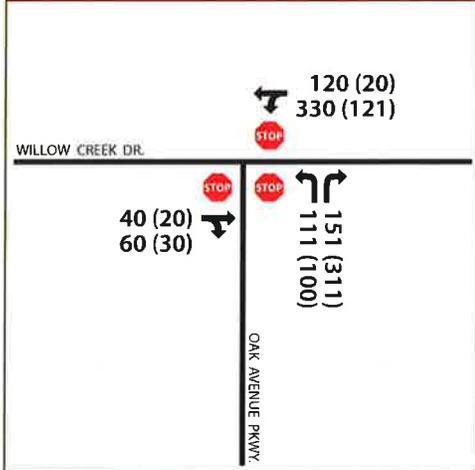
Addition of the project-generated traffic in the weekday PM peak hour would result in relatively small increases in intersection delay at each of the study intersections. Although the projected level of service at Blue Ravine Road/Oak Avenue Parkway (LOS D) is worse than LOS C, the project-related delay increase at that location (1.7 seconds per vehicle) is less than the City's significance threshold of 5.0 seconds per vehicle. The other study intersections will operate at acceptable levels of service.

The Blue Ravine Road/Project Driveway intersection will operate at LOS C in the PM peak hour, while the Oak Avenue Parkway driveway intersection is expected to be at LOS B.

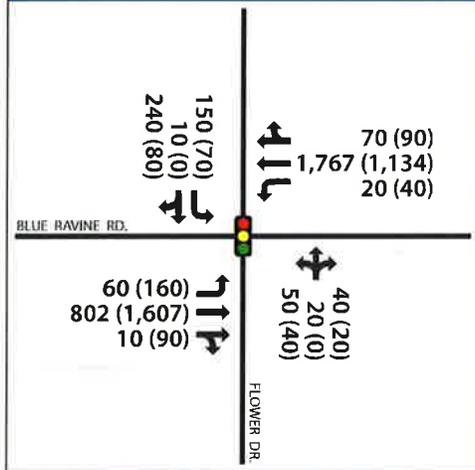
The project's impact is again considered less than significant.



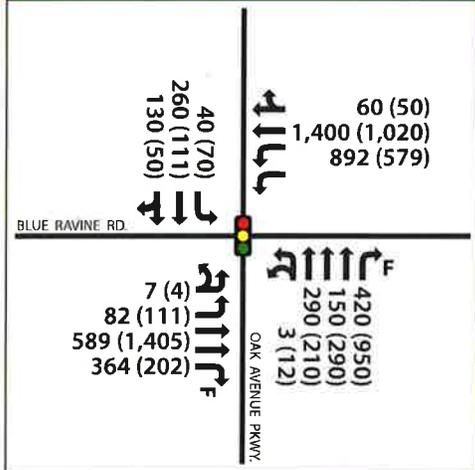
1 OAK AVENUE PKWY. / WILLOW CREEK DR.



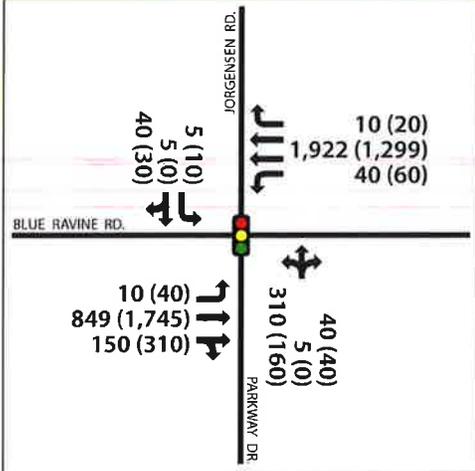
2 BLUE RAVINE RD. / FLOWER DR.



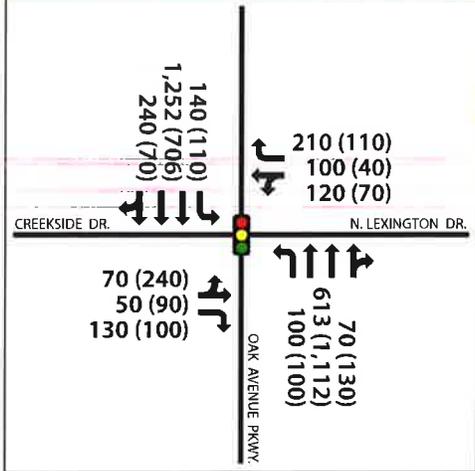
3 BLUE RAVINE RD. / OAK AVENUE PKWY.



4 BLUE RAVINE RD. / JORGENSEN RD. / PARKWAY DR.



5 OAK AVENUE PKWY. / CREEKSIDE DR. / N. LEXINGTON DR.



LEGEND

(###) AM (PM) PEAK HOUR TRAFFIC VOLUMES

TURN LANE

TRAFFIC SIGNAL

STOP SIGN

F FREE RIGHT TURN

**Table 11
Level of Service Summary¹
Cumulative Plus Project Conditions**

| Intersection | Traffic Control | Weekday AM Peak Hour | | | | Weekday PM Peak Hour | | | |
|--|------------------------|-----------------------|------------------|----------------------|-----|-----------------------|------|----------------------|-----|
| | | Cumulative No Project | | Cumulative + Project | | Cumulative No Project | | Cumulative + Project | |
| | | Delay ² | LOS ³ | Delay | LOS | Delay | LOS | Delay | LOS |
| Oak Avenue Parkway/Willow Creek Drive | All-Way STOP | 16.4 | C | 16.5 | C | 9.9 | A | 9.9 | A |
| Blue Ravine Road/Flower Drive | Signal | 27.6 | C | 27.9 | C | 13.7 | B | 13.8 | B |
| Blue Ravine Road/Oak Avenue Parkway ⁴ | Signal | 35.9 ⁵ | D | 36.7 | D | 41.3 | D | 43.0 | D |
| Blue Ravine Road/Jorgensen Road/Parkway Dr. | Signal | 36.1 | D | 36.2 | D | 34.3 | C | 34.5 | C |
| Oak Avenue Parkway/Creekside Drive/North Lexington Drive | Signal | 26.0 | C | 26.1 | C | 25.8 | C | 25.9 | C |
| Blue Ravine Road/Project Driveway | STOP-Sign ⁶ | N.A. ⁷ | N.A. | 13.1 | B | N.A. | N.A. | 19.1 | C |
| Oak Avenue Parkway/Project Driveway | STOP-Sign ⁶ | N.A. | N.A. | 20.2 | C | N.A. | N.A. | 13.2 | B |

Notes:
¹ Reference: Transportation Research Board, *Highway Capacity Manual 2010*, Fifth Edition, December 2010.
² Average control delay (seconds per vehicle).
³ Level of service.
⁴ Reference: Transportation Research Board, *Highway Capacity Manual*, 2000.
⁵ Shaded cell denotes unacceptable level of service.
⁶ Worst-case minor movement delay shown for STOP-sign-controlled intersections.
⁷ Not applicable. Intersection does not exist under "no project" conditions.

Mitigation Measures

As described above, in both peak-hour periods, the Parkway Apartments project is expected to result in less-than-significant impacts to traffic operations at the study intersections under cumulative conditions. Although two study intersections are projected to fail to conform to the City's level of service standard in the AM or PM peak hour, the incremental increase in delay at those locations is less than the City's significance threshold of five seconds per vehicle.

Therefore, no off-site mitigation measures are recommended.

PROJECT ACCESS AND CIRCULATION ANALYSIS

This section describes the analysis of the proposed project's vehicular access system. As described earlier, the proposed project will be served by two driveways.

Access Driveways

As shown earlier on Figure 2, two vehicular access driveways are proposed to serve the proposed project, one on Blue Ravine Road and one on Oak Avenue Parkway. The driveways are described below.

Blue Ravine Road Driveway – The Blue Ravine Road Driveway would be located roughly 600 feet west of the west edge of Oak Avenue Parkway. It is proposed to provide right-turns only, both inbound and outbound. Traffic exiting the project at this location would be controlled by a STOP sign.

Oak Avenue Parkway Driveway – This driveway would be located about 335 feet south of the south edge of Blue Ravine Road. Because of an existing raised median in Oak Avenue Parkway, it will be restricted to right turns only, both inbound and outbound. Exiting traffic will be STOP-sign-controlled.

Access Analysis

Using the Cumulative Plus Project traffic volumes, analyses were performed to address the operation and configuration of the proposed project access points. Those analyses addressed:

- Driveway spacing,
- Turn restrictions,
- Right-turn deceleration lanes or tapers,
- Sight distance,
- Driveway traffic control (i.e., signal or STOP-sign control), and
- Minimum recommended throat depth.

Driveway Spacing

The Blue Ravine Road driveway will be located about 600 feet west of Oak Avenue Parkway and 150 feet east of an existing driveway serving the adjacent development. The Oak Avenue Parkway driveway will be about 335 feet south of Blue Ravine Road and approximately 700 feet north of the existing driveway serving the FIDO Field Dog Park.

Based on the descriptions presented above, the access point spacing cited here conforms to City of Folsom practice and is, therefore, considered acceptable.

Turn Restrictions

Unsignalized driveways may be subject to restrictions on certain turning movements, based on City of Folsom policies. In particular, outbound left-turns are generally prohibited on six-lane roadways. For that reason, as well as the presence of an existing raised median, the Oak Avenue Parkway driveway should be restricted to right turns only for both entering and exiting traffic.

If they were allowed, left turns entering and exiting the Blue Ravine Road driveway would be facilitated by the existing center left-turn lane. Although the driveway will have a low volume of project-generated peak-hour traffic, the level of service analysis shows that delays associated with exiting left-turning vehicles would be relatively long, particularly in the PM peak hour under cumulative conditions. In the short term, the delays would be less substantial, but as traffic volumes on Blue Ravine Road grow, the potential for accidents involving drivers entering and exiting the site would also grow.

For that reason, the Blue Ravine Road driveway should also be restricted to right-turns only for both entering and exiting traffic. To ensure the effectiveness of this restriction, a raised median must be provided, as experience has shown that signage alone is insufficient to discourage drivers from making left turns. In this case, an existing section of raised median is present a short distance to the west of the proposed driveway. That median should be extended to the east to join another existing median on the west leg of the Blue Ravine Road/Oak Avenue Parkway intersection.

Currently, drivers exiting the project site and desiring to travel to the west on Blue Ravine Road would have only limited alternatives if outbound left turns are prohibited. Specifically, because U-turns are prohibited on the eastbound approach at the Blue Ravine Road/Oak Avenue Parkway intersection, drivers would be unable to make a right turn out of the site, then perform a U-turn at that location. Instead, they would most likely exit the site via a right turn (probably at the Oak Avenue Parkway driveway), then travel south on Oak Avenue Parkway to Creekside Drive or East Bidwell Street.

Consultation with the City of Folsom Traffic Engineer has indicated that the Blue Ravine Road/Oak Avenue Parkway intersection could be modified to allow U-turns to be made on the eastbound approach, primarily through replacement of the existing lane use sign on the signal mast arm. Implementing this change will limit the amount of “out of direction” travel associated with restricting the driveway to right-turns only. It will also allow traffic approaching from the west to access the driveways serving the Oak Hills Church on the north side of Blue Ravine Road.

Right-Turn Deceleration Lanes or Tapers

The following guidelines are typically used in the City of Folsom for consideration of the need for right-turn deceleration lanes or tapers at private driveways located on roads with travel speeds of 45 miles per hour or greater, such as Blue Ravine Road and Oak Avenue Parkway:

- If the peak-hour right-turn volume into a private driveway is projected to be less than 10 vehicles per hour, no improvements are necessary.
- If the right-turn volume into a private driveway is projected to be 10 - 50 vehicles per hour, a right-turn deceleration taper should be constructed.

- If the right-turn volume into a private driveway is projected to be more than 50 vehicles per hour, a right-turn deceleration lane should be constructed.

Although the City has not formally adopted these guidelines, they are consistent with standards used by other jurisdictions in the area.

Applying these guidelines to the proposed project access location on Blue Ravine Road indicates that no right-turn improvements are necessary, as the projected right-turn volumes will be lower than 10 vehicles in both peak-hour periods. The maximum right-turn volume is nine vehicles at the Blue Ravine Road driveway in the PM peak hour under cumulative conditions.

At the Oak Avenue Parkway driveway, a maximum of 22 entering right turns are projected in the PM peak hour under cumulative conditions. Although this volume suggests the need for a right-turn taper, none of the other driveways (e.g., Folsom Dog Park) or public street intersections (e.g., Creekside Drive/North Lexington Drive) along Oak Avenue Parkway in this area have right-turn tapers or lanes. Consequently, no right-turn taper or lane is recommended at the project driveway.

Sight Distance

To ensure that drivers will be able to exit the site safely, a stopping sight distance analysis was conducted at the proposed driveway locations using information provided in *A Policy on Geometric Design of Highways and Streets* (American Association of State Highway and Transportation Officials, 2011).

Blue Ravine Road and Oak Avenue Parkway each have a posted speed limit of 45 MPH. Furthermore, the most recent radar speed survey conducted on Blue Ravine Road (MRO Engineers, January 2017) indicated that the 85th-percentile speed was 50 MPH (i.e., 85 percent of drivers were traveling at or below 50 MPH) and the average speed was 46 MPH. On Oak Avenue Parkway, a 2011 speed survey conducted by the City of Folsom found that the 85th-percentile speed was 51 MPH and the average speed was 45 MPH.

Based on criteria established in the AASHTO document, a 45 MPH travel speed calls for 360 feet of clear stopping sight distance. To reflect the 85th-percentile speeds referenced above, a design value of 425 feet, the stopping sight distance value for 50 MPH, was used in this evaluation.

Field investigations at the proposed access locations revealed the following findings:

- Blue Ravine Road Driveway – Looking west, exiting drivers will have clear sight distance of over 500 feet. Thus, more than adequate sight distance is available for exiting drivers at this driveway.
- Oak Avenue Parkway Driveway – To the north, drivers exiting the site will have adequate sight distance, as they will be able to see well beyond Blue Ravine Road.

It should be noted that the elevation of the project site is somewhat lower than Blue Ravine Road. The sight distance findings presented above for the Blue Ravine Road driveway are based on the assumption that the exiting vehicle is approximately level (i.e., the driveway approach at Blue Ravine Road is not excessively steep).

Based on the field observations and caveats presented above, adequate sight distance is expected to be available to allow safe operation of both project driveways, although landscape materials must be kept low to avoid blocking sight lines in two areas:

- On the south side of Blue Ravine Road west of the project driveway, and
- On the west side of Oak Avenue Parkway, north of the project driveway.

Driveway Traffic Control

Both project driveways are proposed to be controlled by a STOP sign on the outbound approach. To determine whether this form of traffic control will be adequate to meet the needs of motorists traveling to and from the project, an analysis of the potential for signalization of the driveways was performed. The need for installation of a traffic signal at a given location is judged relative to a defined set of traffic signal “warrants.” The current signal warrants are documented in “Part 4 – Highway Traffic Signals” of the *California Manual on Uniform Traffic Control Devices 2012* (Caltrans, November 7, 2014). Nine such warrants have been defined in this latest revision of the California MUTCD, although not all warrants are relevant to each case. This analysis was conducted using Warrant 3, the “Peak Hour” signal warrant.

Because of the relatively low volume of traffic to be generated by the proposed project, neither of the driveways will have sufficient traffic under any analysis scenario to meet the minimum requirements for consideration of traffic signal installation. In addition, the Blue Ravine Road driveway intersection is located about 600 feet from the signalized Blue Ravine Road/Oak Avenue Parkway intersection and the Oak Avenue Parkway driveway is about 335 feet from that location. Those distances are substantially less than the City’s minimum preferred signal spacing of 1,000 feet.

Therefore, exiting traffic at each project driveways should be controlled by a STOP sign, with free-flowing traffic on Blue Ravine Road and Oak Avenue Parkway.

Minimum Recommended Throat Depth

The minimum recommended throat depth (MRTD) for outbound traffic under “Cumulative Plus Project” conditions was estimated at both proposed project driveways. Adequate throat depth is necessary on the internal roadways to provide enough stacking distance for exiting vehicles so that the first on-site driveway or cross street is not blocked. This minimizes the possibility of entering vehicles queuing back onto the public street.

An analysis was conducted to determine the expected “95th-percentile” queue length (i.e., there is a 95 percent probability that the actual queue at the driveway will be equal to or shorter than the projected queue). The MRTD was derived from the *Highway Capacity Manual* intersection capacity calculations.

The analysis indicated that 25 feet (i.e., one vehicle) of throat depth will be needed at each driveway in the AM and PM peak hours. The project site plan shows that adequate throat depth is provided at both driveways, with about 35 feet available at the Blue Ravine Road driveway and about 230 feet at the Oak Avenue Parkway driveway.

Pedestrian Safety

Potential pedestrian safety issues that might arise in connection with the proposed residential project were also considered. The intersection of Blue Ravine Road/Oak Avenue Parkway has all of the necessary equipment and fixtures required to serve the needs of pedestrians, including marked crosswalks, pedestrian signals with push buttons, and wheelchair ramps.

In addition, a standard sidewalk exists along the west side of Oak Avenue Parkway, all the way from Blue Ravine Road to Creekside Drive and beyond. No sidewalk currently exists, however, along the project's Blue Ravine Road frontage.

It is recommended that the project be required to construct a standard sidewalk along its Blue Ravine Road frontage as an extension of the existing stub sidewalk at the southwest corner of Blue Ravine Road/Oak Avenue Parkway. That added amenity, in combination with the existing pedestrian facilities, will safely serve the needs of pedestrians in the project area.

Bicycle Safety

On-street ("Class II") bike lanes exist along the project frontage on both sides of Blue Ravine Road and Oak Avenue Parkway. In addition, an off-street bike path is planned along the south edge of the apartment project site, extending westerly from Oak Avenue Parkway. Although not yet complete, that path is already in use. According to the project site plan, the bike path will be finished as part of the project.

In accordance with the City's *Design Guidelines for Multi-Family Development*, the project shall provide one bicycle parking space for every five units (i.e., 14 spaces). The bicycle parking shall be distributed evenly around the project site.

These facilities should adequately meet the needs of bicyclists in the vicinity of the project, and no additional bicycle amenities are recommended.

Access System Recommendations

Key findings and recommendations resulting from the access analysis described above include the following:

- The proposed driveway spacing conforms to City of Folsom practice.
- Both project driveways should be restricted to right turns only, both inbound and outbound.
- To ensure the driveway turn restriction is effective at the Blue Ravine Road access location, a raised median should be constructed on Blue Ravine Road connecting the existing median west of the project site with the existing median on the west leg of the Blue Ravine Road/Oak Avenue Parkway intersection.
- The intersection of Blue Ravine Road/Oak Avenue Parkway should be modified to allow U-turns on the eastbound approach.
- No right-turn lane or taper is recommended at either driveway.

- Both driveways will have adequate sight distance for exiting drivers, although care must be taken to avoid blocking sight lines to the west of the Blue Ravine Road driveway and to the north of the Oak Avenue Parkway driveway.
- The Blue Ravine Road driveway must be designed so that exiting vehicles are approximately level as they wait to depart.
- STOP-sign control should be employed at both project driveways.
- The site plan provides adequate throat depth at both driveways.

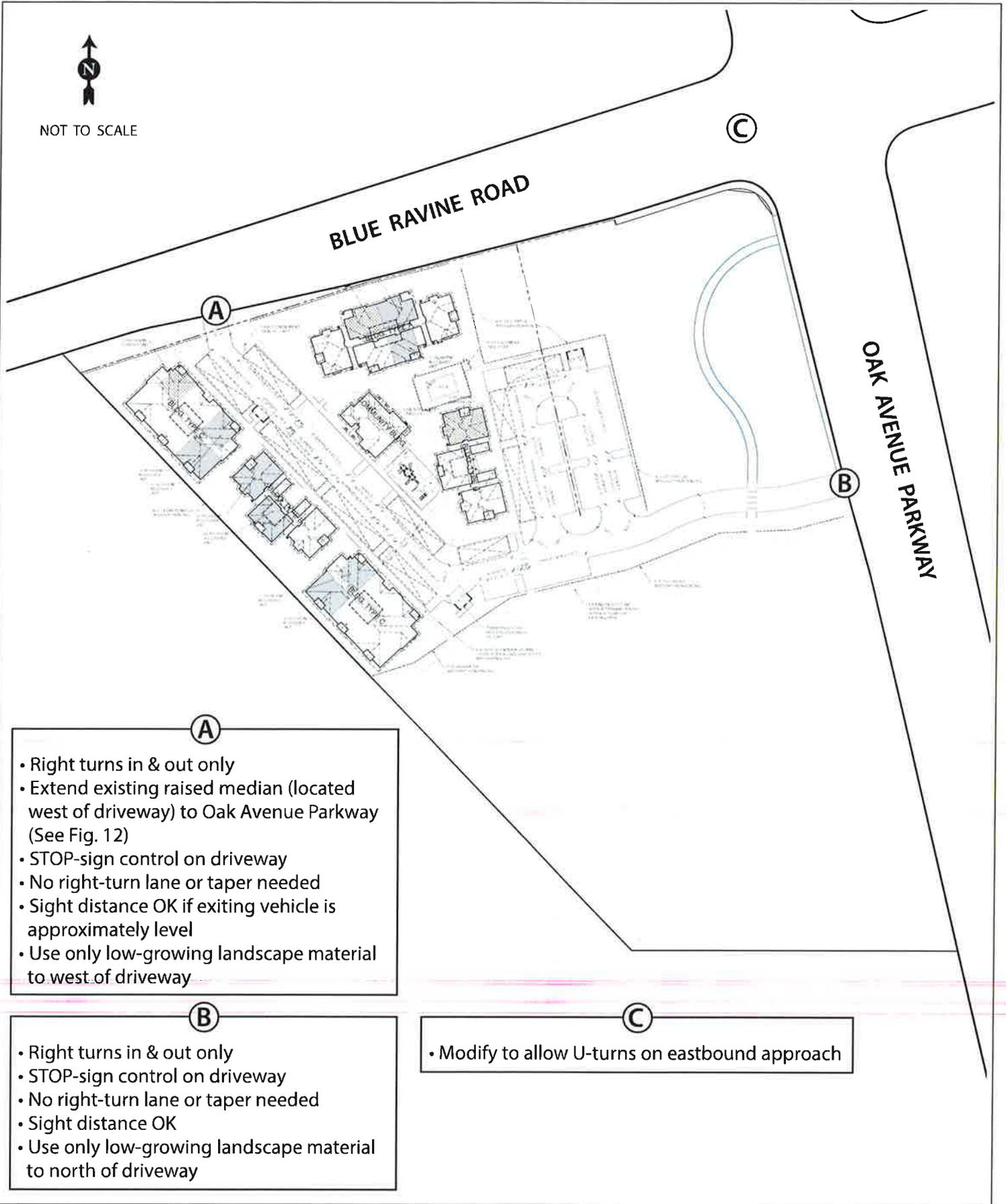
These findings and recommendations are illustrated on Figure 11.

Transportation System Recommendations

Figure 12 illustrates the proposed transportation system in the immediate vicinity of the project site, including the proposed sidewalk construction along the project's Blue Ravine Road frontage and the median construction on that road, as well as the modifications at Blue Ravine Road/Oak Avenue Parkway to allow eastbound U-turns. Although the off-street bike path along the project's southern edge will be finished as part of the project, it is already in use and is, therefore, reflected in Figure 3 – Existing Transportation System. As noted above, the project is also required to provide 14 on-site bicycle parking spaces. No other system changes are recommended.



NOT TO SCALE



A

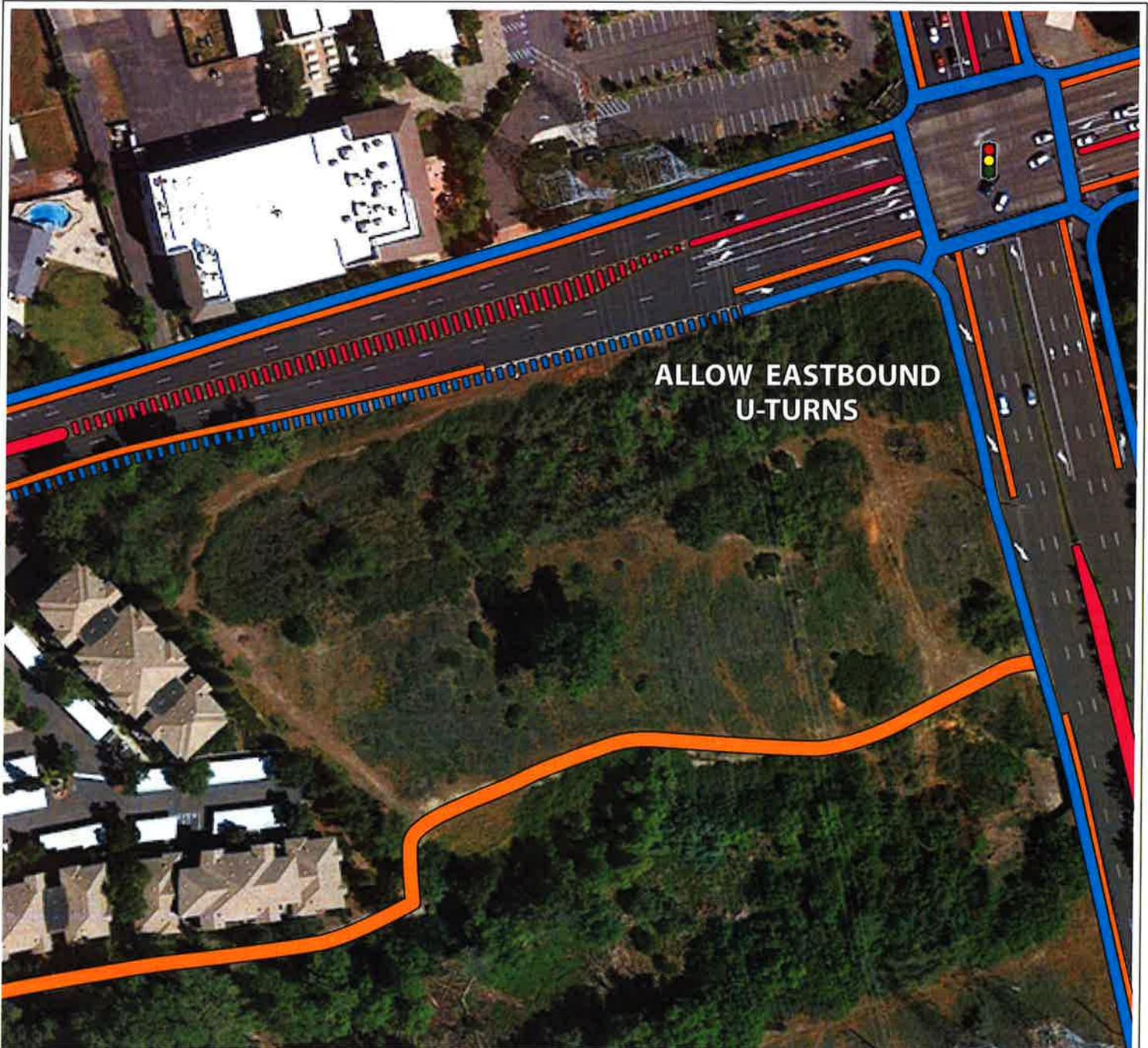
- Right turns in & out only
- Extend existing raised median (located west of driveway) to Oak Avenue Parkway (See Fig. 12)
- STOP-sign control on driveway
- No right-turn lane or taper needed
- Sight distance OK if exiting vehicle is approximately level
- Use only low-growing landscape material to west of driveway

B

- Right turns in & out only
- STOP-sign control on driveway
- No right-turn lane or taper needed
- Sight distance OK
- Use only low-growing landscape material to north of driveway

C

- Modify to allow U-turns on eastbound approach



ALLOW EASTBOUND
U-TURNS

LEGEND

-  SIDEWALK / CROSSWALK
-  PROPOSED SIDEWALK
-  BIKE LANE / PATH
-  RAISED MEDIAN
-  PROPOSED RAISED MEDIAN
-  TRAFFIC SIGNAL



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PROPOSED TRANSPORTATION SYSTEM

FIGURE 12

PARKING ASSESSMENT

This section describes an assessment of the amount of parking needed to serve the proposed project. The evaluation presented here is primarily based on requirements established within the *Folsom Municipal Code* and the City's *Design Guidelines for Multi-Family Development*, as well as information presented in the current edition of the Institute of Transportation Engineers *Parking Generation* manual. Information concerning parking at other local apartment complexes is also included.

Proposed Parking Supply

At the Parkway Apartments project, a total of 129 parking spaces are proposed, as follows:

- Uncovered: 54 spaces,
- Covered: 65 spaces, and
- Handicapped: 10 spaces (8 covered and 2 uncovered).

Given the proposed 72 multi-family units, this represents an overall parking ratio of 1.79 spaces per unit and, given the mix of unit types proposed, 0.90 spaces per bedroom.

City of Folsom Parking Requirements

The *Folsom Municipal Code* (Sections 17.17.100 and 17.57.040) requires 1.5 parking spaces per unit for multi-family developments. Under that standard, the proposed 72-unit project would be required to provide 108 parking spaces.

However, the City's *Design Guidelines for Multi-Family Development* have the following requirements:

- One-bedroom units: 1.5 spaces per unit,
- Two-bedroom units: 1.75 spaces per unit, and
- Three-bedroom units: 2.0 spaces per unit.

In addition, guest parking is required at a rate of 0.2 spaces per unit.

Applying these parking ratios indicates that the proposed project must provide a total of 140 parking spaces, as follows:

- One-bedroom units: 18 units at 1.5 spaces per unit = 27 spaces,
- Two-bedroom units: 36 units at 1.75 spaces per unit = 63 spaces,
- Three-bedroom units: 18 units at 2.0 spaces per unit = 36 spaces, and
- Guest parking: 72 units at 0.2 spaces per unit = 14 spaces.

This represents an overall parking ratio of 1.94 spaces per unit and 0.97 spaces per bedroom.

ITE Parking Generation Report

According to data presented in the *ITE Parking Generation* manual, suburban apartment projects have the following characteristics:

- Average peak-period parking demand: 1.23 spaces per unit,
- Range of parking demand: 0.68 – 1.94 spaces per unit, and
- 85th-percentile parking demand: 1.54 spaces per unit.

Parking at Other Apartment Projects

City of Folsom staff provided information concerning the parking requirements imposed on two market-rate apartment complexes in Folsom, as follows:

- Sherwood Apartments: 1.8 spaces per unit, and
- Overlook at Blue Ravine: 1.75 spaces per unit.

In both cases, the parking ratio described here was considered to be adequate, based on a lack of complaints addressed to either the city or on-site property managers.

In addition, in connection with the recent approval of the Broadstone Apartments project, the city received a detailed parking analysis that addressed conditions at 24 apartment complexes in the Sacramento region. That document is provided as Appendix G. According to that study:

- Average parking ratio
 - 1.87 spaces per unit
 - 1.10 spaces per bedroom
- Median parking ratio
 - 1.90 spaces per unit
 - 1.08 spaces per bedroom

Conclusion

The Parkway Apartments project proposes to provide parking equivalent to 1.79 spaces per unit and 0.90 spaces per bedroom. These ratios are greater than the *Folsom Municipal Code* requirement, but are lower than the requirements presented in the City's *Design Guidelines for Multi-Family Development*. However, the proposed parking supply exceeds the average and 85th-percentile apartment parking demand value documented in the *ITE Parking Generation* manual and is only about eight percent lower than the highest parking demand value presented there.

With regard to the recent analysis of 24 apartment projects in the Sacramento region, the proposed parking supply is slightly (about four percent) lower than the documented average parking supply on a "space per unit" basis; it is somewhat lower than the average and median values on a "space per bedroom" basis. However, the tenants of the proposed low-income apartment project could reasonably be expected to have lower vehicle ownership rates than were reflected in the Sacramento study. For

example, according to the U.S. Bureau of Transportation Statistics, with respect to households having no vehicles, almost 65 percent have income less than \$25,000, 16 percent have income in the \$25,000 – 54,999 range and 7 percent have household income in excess of \$55,000. (About 12 percent of households are “unknown.”)

Consideration of all of the above factors indicates that the proposed project will provide adequate parking to meet residents’ and visitors’ needs.

APPENDIX A

**EXISTING CONDITIONS
LEVEL OF SERVICE CALCULATION WORKSHEETS**

Intersection

| | |
|---------------------------|------|
| Intersection Delay, s/veh | 11.5 |
| Intersection LOS | B |

| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBU | NBL | NBR |
|-------------------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 26 | 39 | 0 | 210 | 77 | 0 | 67 | 93 |
| Peak Hour Factor | 0.92 | 0.70 | 0.70 | 0.92 | 0.70 | 0.70 | 0.92 | 0.70 | 0.70 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 37 | 56 | 0 | 300 | 110 | 0 | 96 | 133 |
| Number of Lanes | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |

Approach

| | EB | WB | NB |
|----------------------------|-----|------|-----|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 1 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 2 | 1 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 2 | 0 | 1 |
| HCM Control Delay | 8.4 | 13.4 | 9.4 |
| HCM LOS | A | B | A |

Lane

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 73% |
| Vol Thru, % | 0% | 0% | 40% | 27% |
| Vol Right, % | 0% | 100% | 60% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 67 | 93 | 65 | 287 |
| LT Vol | 67 | 0 | 0 | 210 |
| Through Vol | 0 | 0 | 26 | 77 |
| RT Vol | 0 | 93 | 39 | 0 |
| Lane Flow Rate | 96 | 133 | 93 | 410 |
| Geometry Grp | 7 | 7 | 2 | 2 |
| Degree of Util (X) | 0.166 | 0.185 | 0.12 | 0.544 |
| Departure Headway (Hd) | 6.229 | 5.017 | 4.661 | 4.778 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 573 | 709 | 763 | 754 |
| Service Time | 3.998 | 2.786 | 2.726 | 2.823 |
| HCM Lane V/C Ratio | 0.168 | 0.188 | 0.122 | 0.544 |
| HCM Control Delay | 10.2 | 8.9 | 8.4 | 13.4 |
| HCM Lane LOS | B | A | A | B |
| HCM 95th-tile Q | 0.6 | 0.7 | 0.4 | 3.3 |

8: Flower Dr. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Existing Conditions
 AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | |  |  |  |
| Volume (veh/h) | 40 | 508 | 9 | 19 | 1185 | 46 | 30 | 10 | 25 | 95 | 6 | 153 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 48 | 605 | 11 | 23 | 1411 | 55 | 36 | 12 | 30 | 113 | 7 | 182 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 62 | 2229 | 41 | 37 | 2124 | 83 | 119 | 50 | 57 | 317 | 10 | 268 |
| Arrive On Green | 0.04 | 0.63 | 0.63 | 0.02 | 0.61 | 0.61 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1774 | 3556 | 65 | 1774 | 3468 | 135 | 235 | 282 | 323 | 1359 | 58 | 1521 |
| Grp Volume(v), veh/h | 48 | 301 | 315 | 23 | 719 | 747 | 78 | 0 | 0 | 113 | 0 | 189 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1851 | 1774 | 1770 | 1833 | 841 | 0 | 0 | 1359 | 0 | 1579 |
| Q Serve(g_s), s | 1.8 | 5.2 | 5.2 | 0.9 | 18.0 | 18.2 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 7.6 |
| Cycle Q Clear(g_c), s | 1.8 | 5.2 | 5.2 | 0.9 | 18.0 | 18.2 | 8.4 | 0.0 | 0.0 | 6.2 | 0.0 | 7.6 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.07 | 0.46 | | 0.38 | 1.00 | | 0.96 |
| Lane Grp Cap(c), veh/h | 62 | 1109 | 1160 | 37 | 1084 | 1123 | 225 | 0 | 0 | 317 | 0 | 278 |
| V/C Ratio(X) | 0.77 | 0.27 | 0.27 | 0.63 | 0.66 | 0.67 | 0.35 | 0.00 | 0.00 | 0.36 | 0.00 | 0.68 |
| Avail Cap(c_a), veh/h | 183 | 1561 | 1632 | 130 | 1509 | 1563 | 452 | 0 | 0 | 537 | 0 | 534 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 32.6 | 5.7 | 5.7 | 33.0 | 8.6 | 8.6 | 25.0 | 0.0 | 0.0 | 25.7 | 0.0 | 26.2 |
| Incr Delay (d2), s/veh | 18.0 | 0.1 | 0.1 | 16.1 | 0.7 | 0.7 | 0.9 | 0.0 | 0.0 | 0.7 | 0.0 | 2.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 2.5 | 2.7 | 0.6 | 8.8 | 9.1 | 1.4 | 0.0 | 0.0 | 2.0 | 0.0 | 3.5 |
| LnGrp Delay(d),s/veh | 50.5 | 5.8 | 5.8 | 49.2 | 9.3 | 9.3 | 25.9 | 0.0 | 0.0 | 26.3 | 0.0 | 29.1 |
| LnGrp LOS | D | A | A | D | A | A | C | | | C | | C |
| Approach Vol, veh/h | | 664 | | | 1489 | | | 78 | | | | 302 |
| Approach Delay, s/veh | | 9.1 | | | 9.9 | | | 25.9 | | | | 28.1 |
| Approach LOS | | A | | | A | | | C | | | | C |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 16.0 | 5.4 | 46.6 | | 16.0 | 6.4 | 45.7 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 23.0 | 5.0 | 60.0 | | 23.0 | 7.0 | 58.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 10.4 | 2.9 | 7.2 | | 9.6 | 3.8 | 20.2 | | | | |
| Green Ext Time (p_c), s | | 1.6 | 0.0 | 25.4 | | 1.7 | 0.0 | 21.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 12.4 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Existing Conditions
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 50 | 368 | 231 | 662 | 980 | 15 | 187 | 94 | 268 | 7 | 163 | 81 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 54 | 400 | 0 | 720 | 1065 | 16 | 203 | 102 | 0 | 8 | 177 | 88 |
| Adj No. of Lanes | 2 | 2 | 1 | 2 | 2 | 0 | 1 | 3 | 1 | 1 | 2 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 132 | 776 | 347 | 910 | 1589 | 24 | 255 | 1340 | 417 | 15 | 295 | 139 |
| Arrive On Green | 0.04 | 0.22 | 0.00 | 0.26 | 0.45 | 0.45 | 0.14 | 0.26 | 0.00 | 0.01 | 0.13 | 0.13 |
| Sat Flow, veh/h | 3442 | 3539 | 1583 | 3442 | 3568 | 54 | 1774 | 5085 | 1583 | 1774 | 2309 | 1089 |
| Grp Volume(v), veh/h | 54 | 400 | 0 | 720 | 528 | 553 | 203 | 102 | 0 | 8 | 133 | 132 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1770 | 1583 | 1721 | 1770 | 1852 | 1774 | 1695 | 1583 | 1774 | 1770 | 1628 |
| Q Serve(g_s), s | 1.0 | 6.5 | 0.0 | 12.7 | 15.4 | 15.4 | 7.2 | 1.0 | 0.0 | 0.3 | 4.7 | 5.0 |
| Cycle Q Clear(g_c), s | 1.0 | 6.5 | 0.0 | 12.7 | 15.4 | 15.4 | 7.2 | 1.0 | 0.0 | 0.3 | 4.7 | 5.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.03 | 1.00 | | 1.00 | 1.00 | | 0.67 |
| Lane Grp Cap(c), veh/h | 132 | 776 | 347 | 910 | 788 | 825 | 255 | 1340 | 417 | 15 | 226 | 208 |
| V/C Ratio(X) | 0.41 | 0.52 | 0.00 | 0.79 | 0.67 | 0.67 | 0.79 | 0.08 | 0.00 | 0.55 | 0.59 | 0.63 |
| Avail Cap(c_a), veh/h | 210 | 920 | 411 | 1631 | 1190 | 1245 | 570 | 2488 | 775 | 108 | 406 | 373 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.7 | 22.5 | 0.0 | 22.4 | 14.3 | 14.3 | 27.1 | 18.1 | 0.0 | 32.3 | 26.9 | 27.1 |
| Incr Delay (d2), s/veh | 2.0 | 0.5 | 0.0 | 1.6 | 1.0 | 1.0 | 5.6 | 0.0 | 0.0 | 27.9 | 2.4 | 3.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.5 | 3.2 | 0.0 | 6.2 | 7.7 | 8.0 | 3.9 | 0.5 | 0.0 | 0.3 | 2.4 | 2.4 |
| LnGrp Delay(d),s/veh | 32.8 | 23.0 | 0.0 | 24.0 | 15.3 | 15.3 | 32.6 | 18.1 | 0.0 | 60.3 | 29.4 | 30.2 |
| LnGrp LOS | C | C | | C | B | B | C | B | | E | C | C |
| Approach Vol, veh/h | | 454 | | | 1801 | | | 305 | | | 273 | |
| Approach Delay, s/veh | | 24.2 | | | 18.8 | | | 27.8 | | | 30.7 | |
| Approach LOS | | C | | | B | | | C | | | C | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 4.5 | 21.2 | 21.3 | 18.3 | 13.4 | 12.4 | 6.5 | 33.1 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 32.0 | 31.0 | 17.0 | 21.0 | 15.0 | 4.0 | 44.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.3 | 3.0 | 14.7 | 8.5 | 9.2 | 7.0 | 3.0 | 17.4 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.4 | 2.6 | 5.6 | 0.4 | 1.3 | 0.0 | 11.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 21.8 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |

11: Parkway Dr./Jorgensen Rd. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Existing Conditions
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 7 | 534 | 95 | 33 | 1223 | 3 | 309 | 2 | 33 | 5 | 5 | 31 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 8 | 574 | 102 | 35 | 1315 | 3 | 332 | 2 | 35 | 5 | 5 | 33 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 14 | 1455 | 258 | 49 | 1782 | 793 | 393 | 2 | 41 | 55 | 7 | 44 |
| Arrive On Green | 0.01 | 0.48 | 0.48 | 0.03 | 0.50 | 0.50 | 0.25 | 0.25 | 0.25 | 0.03 | 0.03 | 0.03 |
| Sat Flow, veh/h | 1774 | 3003 | 532 | 1774 | 3539 | 1575 | 1579 | 10 | 166 | 1774 | 213 | 1403 |
| Grp Volume(v), veh/h | 8 | 338 | 338 | 35 | 1315 | 3 | 369 | 0 | 0 | 5 | 0 | 38 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1766 | 1774 | 1770 | 1575 | 1754 | 0 | 0 | 1774 | 0 | 1615 |
| Q Serve(g_s), s | 0.3 | 9.3 | 9.4 | 1.5 | 22.6 | 0.1 | 15.4 | 0.0 | 0.0 | 0.2 | 0.0 | 1.8 |
| Cycle Q Clear(g_c), s | 0.3 | 9.3 | 9.4 | 1.5 | 22.6 | 0.1 | 15.4 | 0.0 | 0.0 | 0.2 | 0.0 | 1.8 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 0.90 | | 0.09 | 1.00 | | 0.87 |
| Lane Grp Cap(c), veh/h | 14 | 857 | 855 | 49 | 1782 | 793 | 437 | 0 | 0 | 55 | 0 | 50 |
| V/C Ratio(X) | 0.55 | 0.39 | 0.40 | 0.72 | 0.74 | 0.00 | 0.84 | 0.00 | 0.00 | 0.09 | 0.00 | 0.75 |
| Avail Cap(c_a), veh/h | 92 | 989 | 987 | 138 | 2071 | 922 | 662 | 0 | 0 | 138 | 0 | 126 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 38.0 | 12.6 | 12.6 | 37.1 | 15.1 | 9.5 | 27.5 | 0.0 | 0.0 | 36.2 | 0.0 | 37.0 |
| Incr Delay (d2), s/veh | 28.9 | 0.3 | 0.3 | 18.0 | 1.2 | 0.0 | 6.3 | 0.0 | 0.0 | 0.7 | 0.0 | 19.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 4.6 | 4.6 | 1.0 | 11.3 | 0.0 | 8.1 | 0.0 | 0.0 | 0.1 | 0.0 | 1.1 |
| LnGrp Delay(d),s/veh | 66.9 | 12.9 | 12.9 | 55.1 | 16.3 | 9.5 | 33.8 | 0.0 | 0.0 | 36.9 | 0.0 | 56.9 |
| LnGrp LOS | E | B | B | E | B | A | C | | | D | | E |
| Approach Vol, veh/h | | 684 | | | 1353 | | | 369 | | | | 43 |
| Approach Delay, s/veh | | 13.6 | | | 17.3 | | | 33.8 | | | | 54.5 |
| Approach LOS | | B | | | B | | | C | | | | D |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 23.1 | 6.1 | 41.3 | | 6.4 | 4.6 | 42.7 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 29.0 | 6.0 | 43.0 | | 6.0 | 4.0 | 45.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 17.4 | 3.5 | 11.4 | | 3.8 | 2.3 | 24.6 | | | | |
| Green Ext Time (p_c), s | | 1.8 | 0.0 | 19.0 | | 0.0 | 0.0 | 14.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 19.4 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

14: Oak Avenue Pkwy. & Creekside Dr./N. Lexington Dr.
 HCM 2010 Signalized Intersection Summary

Existing Conditions
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 45 | 33 | 82 | 77 | 66 | 134 | 65 | 390 | 46 | 92 | 791 | 153 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1900 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 48 | 35 | 87 | 82 | 70 | 143 | 69 | 415 | 49 | 98 | 841 | 163 |
| Adj No. of Lanes | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 3 | 0 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 96 | 70 | 143 | 142 | 121 | 222 | 88 | 1781 | 206 | 128 | 1749 | 337 |
| Arrive On Green | 0.09 | 0.09 | 0.09 | 0.14 | 0.14 | 0.14 | 0.05 | 0.39 | 0.39 | 0.07 | 0.41 | 0.41 |
| Sat Flow, veh/h | 1047 | 763 | 1557 | 979 | 835 | 1536 | 1774 | 4619 | 535 | 1774 | 4282 | 825 |
| Grp Volume(v), veh/h | 83 | 0 | 87 | 152 | 0 | 143 | 69 | 303 | 161 | 98 | 665 | 339 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 0 | 1557 | 1814 | 0 | 1536 | 1774 | 1695 | 1764 | 1774 | 1695 | 1717 |
| Q Serve(g_s), s | 2.3 | 0.0 | 2.8 | 4.1 | 0.0 | 4.6 | 2.0 | 3.2 | 3.2 | 2.8 | 7.6 | 7.6 |
| Cycle Q Clear(g_c), s | 2.3 | 0.0 | 2.8 | 4.1 | 0.0 | 4.6 | 2.0 | 3.2 | 3.2 | 2.8 | 7.6 | 7.6 |
| Prop In Lane | 0.58 | | 1.00 | 0.54 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 0.48 |
| Lane Grp Cap(c), veh/h | 166 | 0 | 143 | 263 | 0 | 222 | 88 | 1307 | 680 | 128 | 1385 | 701 |
| V/C Ratio(X) | 0.50 | 0.00 | 0.61 | 0.58 | 0.00 | 0.64 | 0.79 | 0.23 | 0.24 | 0.76 | 0.48 | 0.48 |
| Avail Cap(c_a), veh/h | 484 | 0 | 417 | 693 | 0 | 587 | 441 | 2202 | 1146 | 542 | 2397 | 1214 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.6 | 0.0 | 22.9 | 20.9 | 0.0 | 21.1 | 24.6 | 10.9 | 10.9 | 23.8 | 11.4 | 11.4 |
| Incr Delay (d2), s/veh | 2.3 | 0.0 | 4.2 | 2.0 | 0.0 | 3.1 | 14.2 | 0.1 | 0.2 | 9.0 | 0.3 | 0.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.0 | 1.4 | 2.2 | 0.0 | 2.1 | 1.3 | 1.5 | 1.6 | 1.7 | 3.6 | 3.7 |
| LnGrp Delay(d),s/veh | 25.0 | 0.0 | 27.0 | 22.9 | 0.0 | 24.2 | 38.8 | 10.9 | 11.1 | 32.8 | 11.7 | 11.9 |
| LnGrp LOS | C | | C | C | | C | D | B | B | C | B | B |
| Approach Vol, veh/h | | 170 | | | 295 | | | 533 | | | 1102 | |
| Approach Delay, s/veh | | 26.0 | | | 23.5 | | | 14.6 | | | 13.6 | |
| Approach LOS | | C | | | C | | | B | | | B | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 7.8 | 24.2 | | 8.8 | 6.6 | 25.4 | | 11.6 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 16.0 | 34.0 | | 14.0 | 13.0 | 37.0 | | 20.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.8 | 5.2 | | 4.8 | 4.0 | 9.6 | | 6.6 | | | | |
| Green Ext Time (p_c), s | 0.2 | 12.0 | | 0.4 | 0.1 | 11.8 | | 1.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 16.3 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

| Intersection | | | | | | | | | |
|---------------------------|------|------|------|------|------|------|------|------|------|
| Intersection Delay, s/veh | 8.4 | | | | | | | | |
| Intersection LOS | A | | | | | | | | |
| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBU | NBL | NBR |
| Vol, veh/h | 0 | 12 | 22 | 0 | 79 | 14 | 0 | 65 | 198 |
| Peak Hour Factor | 0.92 | 0.88 | 0.88 | 0.92 | 0.88 | 0.88 | 0.92 | 0.88 | 0.88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 14 | 25 | 0 | 90 | 16 | 0 | 74 | 225 |
| Number of Lanes | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |

| Approach | EB | WB | NB |
|----------------------------|-----|-----|-----|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 1 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 2 | 1 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 2 | 0 | 1 |
| HCM Control Delay | 7.5 | 8.6 | 8.4 |
| HCM LOS | A | A | A |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 85% |
| Vol Thru, % | 0% | 0% | 35% | 15% |
| Vol Right, % | 0% | 100% | 65% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 65 | 198 | 34 | 93 |
| LT Vol | 65 | 0 | 0 | 79 |
| Through Vol | 0 | 0 | 12 | 14 |
| RT Vol | 0 | 198 | 22 | 0 |
| Lane Flow Rate | 74 | 225 | 39 | 106 |
| Geometry Grp | 7 | 7 | 2 | 2 |
| Degree of Util (X) | 0.11 | 0.255 | 0.046 | 0.141 |
| Departure Headway (Hd) | 5.385 | 4.195 | 4.331 | 4.802 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 668 | 862 | 830 | 750 |
| Service Time | 3.098 | 1.895 | 2.339 | 2.807 |
| HCM Lane V/C Ratio | 0.111 | 0.261 | 0.047 | 0.141 |
| HCM Control Delay | 8.8 | 8.3 | 7.5 | 8.6 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.4 | 1 | 0.1 | 0.5 |

8: Flower Dr. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Existing Conditions
 PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | | |  | |  |  | |
| Volume (veh/h) | 105 | 1022 | 57 | 28 | 722 | 57 | 23 | 1 | 15 | 44 | 1 | 51 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.98 | 0.99 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 115 | 1123 | 63 | 31 | 793 | 63 | 25 | 1 | 16 | 48 | 1 | 56 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 152 | 2242 | 126 | 49 | 1991 | 158 | 151 | 16 | 35 | 269 | 2 | 128 |
| Arrive On Green | 0.09 | 0.66 | 0.66 | 0.03 | 0.60 | 0.60 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| Sat Flow, veh/h | 1774 | 3403 | 191 | 1774 | 3314 | 263 | 494 | 197 | 425 | 1372 | 28 | 1560 |
| Grp Volume(v), veh/h | 115 | 584 | 602 | 31 | 423 | 433 | 42 | 0 | 0 | 48 | 0 | 57 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1824 | 1774 | 1770 | 1808 | 1116 | 0 | 0 | 1372 | 0 | 1588 |
| Q Serve(g_s), s | 3.3 | 8.7 | 8.7 | 0.9 | 6.5 | 6.5 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 |
| Cycle Q Clear(g_c), s | 3.3 | 8.7 | 8.7 | 0.9 | 6.5 | 6.5 | 2.4 | 0.0 | 0.0 | 1.3 | 0.0 | 1.8 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.15 | 0.60 | | 0.38 | 1.00 | | 0.98 |
| Lane Grp Cap(c), veh/h | 152 | 1166 | 1202 | 49 | 1063 | 1086 | 202 | 0 | 0 | 269 | 0 | 130 |
| V/C Ratio(X) | 0.76 | 0.50 | 0.50 | 0.63 | 0.40 | 0.40 | 0.21 | 0.00 | 0.00 | 0.18 | 0.00 | 0.44 |
| Avail Cap(c_a), veh/h | 650 | 2151 | 2217 | 342 | 1844 | 1883 | 498 | 0 | 0 | 554 | 0 | 459 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.2 | 4.5 | 4.5 | 24.9 | 5.4 | 5.4 | 22.8 | 0.0 | 0.0 | 22.5 | 0.0 | 22.7 |
| Incr Delay (d2), s/veh | 7.4 | 0.3 | 0.3 | 12.4 | 0.2 | 0.2 | 0.5 | 0.0 | 0.0 | 0.3 | 0.0 | 2.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.9 | 4.2 | 4.3 | 0.6 | 3.1 | 3.2 | 0.6 | 0.0 | 0.0 | 0.7 | 0.0 | 0.9 |
| LnGrp Delay(d),s/veh | 30.5 | 4.8 | 4.8 | 37.4 | 5.7 | 5.7 | 23.3 | 0.0 | 0.0 | 22.8 | 0.0 | 25.0 |
| LnGrp LOS | C | A | A | D | A | A | C | | | C | | C |
| Approach Vol, veh/h | | 1301 | | | 887 | | | 42 | | | | 105 |
| Approach Delay, s/veh | | 7.1 | | | 6.8 | | | 23.3 | | | | 24.0 |
| Approach LOS | | A | | | A | | | C | | | | C |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 8.2 | 5.4 | 38.1 | | 8.2 | 8.5 | 35.1 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 15.0 | 10.0 | 63.0 | | 15.0 | 19.0 | 54.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 4.4 | 2.9 | 10.7 | | 3.8 | 5.3 | 8.5 | | | | |
| Green Ext Time (p_c), s | | 0.4 | 0.0 | 23.4 | | 0.4 | 0.2 | 22.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 8.0 | | | | | | | | | |
| HCM 2010 LOS | | | A | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Existing Conditions
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 73 | 891 | 127 | 365 | 649 | 15 | 136 | 183 | 796 | 14 | 69 | 35 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 79 | 968 | 0 | 397 | 705 | 16 | 148 | 199 | 0 | 15 | 75 | 38 |
| Adj No. of Lanes | 2 | 2 | 1 | 2 | 2 | 0 | 1 | 3 | 1 | 1 | 2 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 157 | 1516 | 678 | 532 | 1901 | 43 | 190 | 849 | 264 | 26 | 172 | 81 |
| Arrive On Green | 0.05 | 0.43 | 0.00 | 0.15 | 0.54 | 0.54 | 0.11 | 0.17 | 0.00 | 0.01 | 0.07 | 0.07 |
| Sat Flow, veh/h | 3442 | 3539 | 1583 | 3442 | 3538 | 80 | 1774 | 5085 | 1583 | 1774 | 2317 | 1088 |
| Grp Volume(v), veh/h | 79 | 968 | 0 | 397 | 353 | 368 | 148 | 199 | 0 | 15 | 56 | 57 |
| Grp Sat Flow(s),veh/h/ln | 1721 | 1770 | 1583 | 1721 | 1770 | 1848 | 1774 | 1695 | 1583 | 1774 | 1770 | 1635 |
| Q Serve(g_s), s | 1.5 | 14.6 | 0.0 | 7.5 | 7.8 | 7.8 | 5.5 | 2.3 | 0.0 | 0.6 | 2.1 | 2.3 |
| Cycle Q Clear(g_c), s | 1.5 | 14.6 | 0.0 | 7.5 | 7.8 | 7.8 | 5.5 | 2.3 | 0.0 | 0.6 | 2.1 | 2.3 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 0.04 | 1.00 | | 1.00 | 1.00 | | 0.67 |
| Lane Grp Cap(c), veh/h | 157 | 1516 | 678 | 532 | 951 | 993 | 190 | 849 | 264 | 26 | 131 | 121 |
| V/C Ratio(X) | 0.50 | 0.64 | 0.00 | 0.75 | 0.37 | 0.37 | 0.78 | 0.23 | 0.00 | 0.58 | 0.43 | 0.47 |
| Avail Cap(c_a), veh/h | 253 | 2031 | 909 | 962 | 1380 | 1441 | 444 | 1646 | 513 | 104 | 234 | 217 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.7 | 15.3 | 0.0 | 27.4 | 9.1 | 9.1 | 29.5 | 24.5 | 0.0 | 33.3 | 30.1 | 30.2 |
| Incr Delay (d2), s/veh | 2.5 | 0.5 | 0.0 | 2.1 | 0.2 | 0.2 | 6.7 | 0.1 | 0.0 | 19.1 | 2.2 | 2.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 7.2 | 0.0 | 3.7 | 3.9 | 4.1 | 3.1 | 1.1 | 0.0 | 0.4 | 1.1 | 1.1 |
| LnGrp Delay(d),s/veh | 34.2 | 15.7 | 0.0 | 29.6 | 9.3 | 9.3 | 36.2 | 24.7 | 0.0 | 52.4 | 32.3 | 33.0 |
| LnGrp LOS | C | B | | C | A | A | D | C | | D | C | C |
| Approach Vol, veh/h | | 1047 | | | 1118 | | | 347 | | | 128 | |
| Approach Delay, s/veh | | 17.1 | | | 16.5 | | | 29.6 | | | 34.9 | |
| Approach LOS | | B | | | B | | | C | | | C | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 5.0 | 15.3 | 14.5 | 33.1 | 11.3 | 9.0 | 7.1 | 40.5 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 4.0 | 22.0 | 19.0 | 39.0 | 17.0 | 9.0 | 5.0 | 53.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | 4.3 | 9.5 | 16.6 | 7.5 | 4.3 | 3.5 | 9.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.8 | 1.0 | 12.5 | 0.2 | 0.8 | 0.0 | 17.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 19.4 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

11: Parkway Dr./Jorgensen Rd. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Existing Conditions
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 28 | 1297 | 269 | 41 | 822 | 11 | 138 | 3 | 28 | 6 | 1 | 19 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 30 | 1410 | 292 | 45 | 893 | 12 | 150 | 3 | 30 | 7 | 1 | 21 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 43 | 1820 | 369 | 57 | 2234 | 999 | 186 | 4 | 37 | 42 | 2 | 36 |
| Arrive On Green | 0.02 | 0.62 | 0.62 | 0.03 | 0.63 | 0.63 | 0.13 | 0.13 | 0.13 | 0.02 | 0.02 | 0.02 |
| Sat Flow, veh/h | 1774 | 2920 | 591 | 1774 | 3539 | 1583 | 1427 | 29 | 285 | 1774 | 72 | 1522 |
| Grp Volume(v), veh/h | 30 | 842 | 860 | 45 | 893 | 12 | 183 | 0 | 0 | 7 | 0 | 22 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1742 | 1774 | 1770 | 1583 | 1741 | 0 | 0 | 1774 | 0 | 1594 |
| Q Serve(g_s), s | 1.4 | 28.7 | 30.8 | 2.1 | 10.4 | 0.2 | 8.6 | 0.0 | 0.0 | 0.3 | 0.0 | 1.1 |
| Cycle Q Clear(g_c), s | 1.4 | 28.7 | 30.8 | 2.1 | 10.4 | 0.2 | 8.6 | 0.0 | 0.0 | 0.3 | 0.0 | 1.1 |
| Prop In Lane | 1.00 | | 0.34 | 1.00 | | 1.00 | 0.82 | | 0.16 | 1.00 | | 0.95 |
| Lane Grp Cap(c), veh/h | 43 | 1103 | 1086 | 57 | 2234 | 999 | 227 | 0 | 0 | 42 | 0 | 37 |
| V/C Ratio(X) | 0.70 | 0.76 | 0.79 | 0.80 | 0.40 | 0.01 | 0.81 | 0.00 | 0.00 | 0.17 | 0.00 | 0.59 |
| Avail Cap(c_a), veh/h | 127 | 1182 | 1164 | 85 | 2280 | 1020 | 374 | 0 | 0 | 127 | 0 | 114 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 40.6 | 11.3 | 11.7 | 40.3 | 7.6 | 5.7 | 35.4 | 0.0 | 0.0 | 40.1 | 0.0 | 40.5 |
| Incr Delay (d2), s/veh | 19.1 | 2.8 | 3.6 | 25.8 | 0.1 | 0.0 | 6.6 | 0.0 | 0.0 | 1.9 | 0.0 | 13.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 14.7 | 15.7 | 1.4 | 5.1 | 0.1 | 4.5 | 0.0 | 0.0 | 0.2 | 0.0 | 0.6 |
| LnGrp Delay(d),s/veh | 59.7 | 14.2 | 15.3 | 66.1 | 7.7 | 5.7 | 42.0 | 0.0 | 0.0 | 42.0 | 0.0 | 54.4 |
| LnGrp LOS | E | B | B | E | A | A | D | | | D | | D |
| Approach Vol, veh/h | | 1732 | | | 950 | | | 183 | | | 29 | |
| Approach Delay, s/veh | | 15.5 | | | 10.5 | | | 42.0 | | | 51.4 | |
| Approach LOS | | B | | | B | | | D | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 14.9 | 6.7 | 56.2 | | 6.0 | 6.0 | 56.9 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 18.0 | 4.0 | 56.0 | | 6.0 | 6.0 | 54.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 10.6 | 4.1 | 32.8 | | 3.1 | 3.4 | 12.4 | | | | |
| Green Ext Time (p_c), s | | 0.5 | 0.0 | 19.5 | | 0.0 | 0.0 | 31.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 15.9 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

14: Oak Avenue Pkwy. & Creekside Dr./N. Lexington Dr.
 HCM 2010 Signalized Intersection Summary

Existing Conditions
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 150 | 56 | 61 | 42 | 24 | 69 | 64 | 893 | 82 | 73 | 444 | 47 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1900 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 160 | 60 | 65 | 45 | 26 | 73 | 68 | 950 | 87 | 78 | 472 | 50 |
| Adj No. of Lanes | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 3 | 0 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 226 | 85 | 269 | 88 | 51 | 119 | 86 | 1917 | 175 | 100 | 1926 | 201 |
| Arrive On Green | 0.17 | 0.17 | 0.17 | 0.08 | 0.08 | 0.08 | 0.05 | 0.41 | 0.41 | 0.06 | 0.41 | 0.41 |
| Sat Flow, veh/h | 1307 | 490 | 1554 | 1144 | 661 | 1542 | 1774 | 4732 | 432 | 1774 | 4664 | 486 |
| Grp Volume(v), veh/h | 220 | 0 | 65 | 71 | 0 | 73 | 68 | 680 | 357 | 78 | 341 | 181 |
| Grp Sat Flow(s),veh/h/ln | 1797 | 0 | 1554 | 1806 | 0 | 1542 | 1774 | 1695 | 1774 | 1774 | 1695 | 1759 |
| Q Serve(g_s), s | 6.4 | 0.0 | 2.0 | 2.1 | 0.0 | 2.5 | 2.1 | 8.3 | 8.3 | 2.4 | 3.6 | 3.7 |
| Cycle Q Clear(g_c), s | 6.4 | 0.0 | 2.0 | 2.1 | 0.0 | 2.5 | 2.1 | 8.3 | 8.3 | 2.4 | 3.6 | 3.7 |
| Prop In Lane | 0.73 | | 1.00 | 0.63 | | 1.00 | 1.00 | | 0.24 | 1.00 | | 0.28 |
| Lane Grp Cap(c), veh/h | 311 | 0 | 269 | 139 | 0 | 119 | 86 | 1373 | 719 | 100 | 1400 | 726 |
| V/C Ratio(X) | 0.71 | 0.00 | 0.24 | 0.51 | 0.00 | 0.61 | 0.79 | 0.50 | 0.50 | 0.78 | 0.24 | 0.25 |
| Avail Cap(c_a), veh/h | 809 | 0 | 700 | 358 | 0 | 305 | 351 | 2198 | 1150 | 383 | 2259 | 1172 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.6 | 0.0 | 19.8 | 24.6 | 0.0 | 24.8 | 26.1 | 12.3 | 12.3 | 25.8 | 10.6 | 10.7 |
| Incr Delay (d2), s/veh | 3.0 | 0.0 | 0.5 | 2.9 | 0.0 | 5.0 | 14.4 | 0.3 | 0.5 | 12.0 | 0.1 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.4 | 0.0 | 0.9 | 1.2 | 0.0 | 1.2 | 1.4 | 3.9 | 4.2 | 1.5 | 1.7 | 1.8 |
| LnGrp Delay(d),s/veh | 24.6 | 0.0 | 20.3 | 27.5 | 0.0 | 29.8 | 40.5 | 12.6 | 12.8 | 37.9 | 10.7 | 10.8 |
| LnGrp LOS | C | | C | C | | C | D | B | B | D | B | B |
| Approach Vol, veh/h | | 285 | | | 144 | | | 1105 | | | 600 | |
| Approach Delay, s/veh | | 23.6 | | | 28.7 | | | 14.4 | | | 14.3 | |
| Approach LOS | | C | | | C | | | B | | | B | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 7.1 | 26.5 | | 13.6 | 6.7 | 26.9 | | 8.3 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 12.0 | 36.0 | | 25.0 | 11.0 | 37.0 | | 11.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.4 | 10.3 | | 8.4 | 4.1 | 5.7 | | 4.5 | | | | |
| Green Ext Time (p_c), s | 0.1 | 12.2 | | 1.3 | 0.1 | 13.3 | | 0.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 16.6 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

APPENDIX B

RELATED PROJECTS TRIP GENERATION

**Table B-1
Approved Projects Trip Generation Summary¹
Parkway Apartments**

| Project | Land Use | Size | AM Peak Hour | | | PM Peak Hour | | |
|---|--|--------------------------|--------------|-----|-------|--------------|-----|-------|
| | | | In | Out | Total | In | Out | Total |
| Folsom Pointe Highway Commercial | Highway Commercial Center ² | | 115 | 103 | 218 | 141 | 107 | 248 |
| Broadstone Park Professional Center | Office | 15,000 SF ^{3,4} | 20 | 3 | 23 | 4 | 18 | 22 |
| Palladio at Broadstone | Retail | 220,000 SF ¹ | 115 | 50 | 165 | 250 | 300 | 550 |
| Island at Parkshore | Single-Family Residential | 315 DU ⁵ | 59 | 177 | 236 | 198 | 117 | 315 |
| Broadstone Crossing Parcel 1 | Two Hotels Three Restaurants | 236 Rooms 22,230 SF | 122 | 96 | 218 | 205 | 155 | 360 |
| La Collina dal Lago | Single-Family Residential | 30 DU ⁶ | 6 | 17 | 23 | 19 | 11 | 30 |
| Empire Ranch | Single-Family Residential | 200 DU ⁶ | 37 | 113 | 150 | 126 | 74 | 200 |
| Montara Grove | Office | 32,000 SF | 44 | 6 | 50 | 8 | 40 | 48 |
| Masjid Bilal Mosque | Church and School | 31,668 SF | 53 | 47 | 100 | 41 | 43 | 84 |
| Psychiatric Services Unit Office – California State Prison - Sacramento | Medical Facility | 17,395 SF | 46 | 6 | 52 | 7 | 30 | 37 |
| Folsom Women's Facility | Correctional Facility | 403 Offenders | 28 | 14 | 42 | 6 | 17 | 23 |
| Addison Place | Single-Family Residential | 10 DU ⁶ | 2 | 5 | 7 | 6 | 4 | 10 |
| Fire and Rain Mixed-Use Building | Retail, Office & Condominiums | 8,313 SF | 5 | 5 | 10 | 10 | 13 | 23 |
| Treehouse West Commercial Center | Retail | 3,595 SF | 5 | 5 | 10 | 4 | 6 | 10 |
| 701 Bidwell St. Commercial Center | Office & Retail | 7,791 SF | 11 | 1 | 12 | 2 | 10 | 12 |
| Parkway Villages H1 & H2 | Single-Family Residential | 16 DU | 3 | 9 | 12 | 10 | 6 | 16 |
| The Commons at Prairie City | Senior Residential | 131 DU | 30 | 14 | 44 | 35 | 35 | 70 |
| Cornerstone Dental Center | Medical Office | 14,000 SF | 26 | 7 | 33 | 14 | 36 | 50 |
| Life Time Fitness Center | Fitness Facility | 116,636 SF | 197 | 120 | 317 | 241 | 205 | 446 |
| The Canyon | Single-Family Residential | 11 DU | 2 | 6 | 8 | 7 | 4 | 11 |
| Leidesdorff Village | Condominium | 56 DU | 4 | 21 | 25 | 19 | 10 | 29 |

**Table B-1
Approved Projects Trip Generation Summary¹
Parkway Apartments**

| Project | Land Use | Size | AM Peak Hour | | | PM Peak Hour | | |
|---|-------------------------------|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | | | In | Out | Total | In | Out | Total |
| Superior Self Storage | Self-Storage Facility | 124,310 SF | 9 | 8 | 17 | 16 | 16 | 32 |
| Harvest Subdivision | Single-Family Residential | 116 DU | 22 | 65 | 87 | 73 | 43 | 116 |
| Russell Ranch Subdivision | Single-Family Residential | 875 DU | 164 | 492 | 656 | 551 | 324 | 875 |
| Mangini Ranch Subdivision | Single-Family Residential | 826 DU | 155 | 465 | 620 | 520 | 306 | 826 |
| Hillsborough Subdivision | Single-Family Residential | 2,103 DU | 394 | 1,183 | 1,577 | 1,325 | 778 | 2,103 |
| Veranda Subdivision | Single-Family Residential | 63 DU | 12 | 35 | 47 | 40 | 23 | 63 |
| Broadstone Apartments | Multi-Family Residential | 304 DU | 31 | 124 | 155 | 122 | 66 | 188 |
| Iron Point Retirement Community | Assisted Living | 126 DU | 13 | 12 | 25 | 18 | 17 | 35 |
| The Pique at Iron Point Apartments | Multi-Family Residential | 327 DU | 33 | 134 | 167 | 132 | 71 | 203 |
| Cresleigh Ravine / Campus at Iron Point | Single Family Multi-Family | 53 SF DU 230 MF DU | 32 | 120 | 152 | 121 | 68 | 189 |
| Country House at Broadstone Memory Care Facility | Assisted Living | 45 DU | 5 | 3 | 8 | 7 | 7 | 14 |
| Starbucks | Coffee Shop | 2,200 SF | 109 | 114 | 223 | 47 | 47 | 94 |
| TOTAL | | | 1,909 | 3,580 | 5,489 | 4,325 | 3,007 | 7,332 |

Notes:

- ¹ Reference: Institute of Transportation Engineers, *Trip Generation Manual*, Ninth Edition, 2012.
- ² Three unbuilt pads (two restaurants and one retail building).
- ³ Square feet.
- ⁴ Approximate unoccupied square footage.
- ⁵ Dwelling units.
- ⁶ Approximate number of unbuilt units.

APPENDIX C

**CONSTRUCTION YEAR NO PROJECT CONDITIONS
LEVEL OF SERVICE CALCULATION WORKSHEETS**

| Intersection | | | | | | | | | |
|---------------------------|------|------|------|------|------|------|------|------|------|
| Intersection Delay, s/veh | 12.5 | | | | | | | | |
| Intersection LOS | B | | | | | | | | |
| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBU | NBL | NBR |
| Vol, veh/h | 0 | 27 | 46 | 0 | 229 | 79 | 0 | 75 | 111 |
| Peak Hour Factor | 0.92 | 0.70 | 0.70 | 0.92 | 0.70 | 0.70 | 0.92 | 0.70 | 0.70 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 39 | 66 | 0 | 327 | 113 | 0 | 107 | 159 |
| Number of Lanes | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |

| Approach | EB | WB | NB |
|----------------------------|-----|----|-----|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 1 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 2 | 1 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 2 | 0 | 1 |
| HCM Control Delay | 8.7 | 15 | 9.9 |
| HCM LOS | A | B | A |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 74% |
| Vol Thru, % | 0% | 0% | 37% | 26% |
| Vol Right, % | 0% | 100% | 63% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 75 | 111 | 73 | 308 |
| LT Vol | 75 | 0 | 0 | 229 |
| Through Vol | 0 | 0 | 27 | 79 |
| RT Vol | 0 | 111 | 46 | 0 |
| Lane Flow Rate | 107 | 159 | 104 | 440 |
| Geometry Grp | 7 | 7 | 2 | 2 |
| Degree of Util (X) | 0.189 | 0.226 | 0.139 | 0.597 |
| Departure Headway (Hd) | 6.343 | 5.13 | 4.789 | 4.888 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 561 | 693 | 740 | 735 |
| Service Time | 4.128 | 2.914 | 2.874 | 2.948 |
| HCM Lane V/C Ratio | 0.191 | 0.229 | 0.141 | 0.599 |
| HCM Control Delay | 10.6 | 9.4 | 8.7 | 15 |
| HCM Lane LOS | B | A | A | B |
| HCM 95th-file Q | 0.7 | 0.9 | 0.5 | 4 |

8: Flower Dr. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Construction Year No Project
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 41 | 558 | 9 | 20 | 1244 | 47 | 31 | 10 | 26 | 98 | 6 | 158 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 49 | 664 | 11 | 24 | 1481 | 56 | 37 | 12 | 31 | 117 | 7 | 188 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 62 | 2288 | 38 | 37 | 2182 | 82 | 109 | 45 | 52 | 294 | 10 | 266 |
| Arrive On Green | 0.03 | 0.64 | 0.64 | 0.02 | 0.63 | 0.63 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 |
| Sat Flow, veh/h | 1774 | 3563 | 59 | 1774 | 3473 | 131 | 215 | 259 | 299 | 1358 | 57 | 1522 |
| Grp Volume(v), veh/h | 49 | 330 | 345 | 24 | 753 | 784 | 80 | 0 | 0 | 117 | 0 | 195 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1852 | 1774 | 1770 | 1834 | 773 | 0 | 0 | 1358 | 0 | 1579 |
| Q Serve(g_s), s | 2.0 | 6.1 | 6.1 | 1.0 | 20.3 | 20.5 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 8.6 |
| Cycle Q Clear(g_c), s | 2.0 | 6.1 | 6.1 | 1.0 | 20.3 | 20.5 | 9.8 | 0.0 | 0.0 | 7.6 | 0.0 | 8.6 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.07 | 0.46 | | 0.39 | 1.00 | | 0.96 |
| Lane Grp Cap(c), veh/h | 62 | 1136 | 1189 | 37 | 1112 | 1153 | 206 | 0 | 0 | 294 | 0 | 275 |
| V/C Ratio(X) | 0.79 | 0.29 | 0.29 | 0.64 | 0.68 | 0.68 | 0.39 | 0.00 | 0.00 | 0.40 | 0.00 | 0.71 |
| Avail Cap(c_a), veh/h | 192 | 1532 | 1604 | 144 | 1484 | 1539 | 302 | 0 | 0 | 388 | 0 | 384 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.4 | 5.8 | 5.8 | 35.9 | 8.9 | 8.9 | 27.9 | 0.0 | 0.0 | 28.3 | 0.0 | 28.7 |
| Incr Delay (d2), s/veh | 20.1 | 0.1 | 0.1 | 16.9 | 0.8 | 0.8 | 1.2 | 0.0 | 0.0 | 0.9 | 0.0 | 3.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 3.0 | 3.1 | 0.7 | 10.1 | 10.5 | 1.6 | 0.0 | 0.0 | 2.3 | 0.0 | 4.0 |
| LnGrp Delay(d),s/veh | 55.5 | 6.0 | 6.0 | 52.8 | 9.6 | 9.7 | 29.1 | 0.0 | 0.0 | 29.2 | 0.0 | 32.2 |
| LnGrp LOS | E | A | A | D | A | A | C | | | C | | C |
| Approach Vol, veh/h | | 724 | | | 1561 | | | 80 | | | | 312 |
| Approach Delay, s/veh | | 9.3 | | | 10.3 | | | 29.1 | | | | 31.1 |
| Approach LOS | | A | | | B | | | C | | | | C |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 16.9 | 5.6 | 51.5 | | 16.9 | 6.6 | 50.4 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 18.0 | 6.0 | 64.0 | | 18.0 | 8.0 | 62.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 11.8 | 3.0 | 8.1 | | 10.6 | 4.0 | 22.5 | | | | |
| Green Ext Time (p_c), s | | 1.1 | 0.0 | 28.8 | | 1.2 | 0.0 | 23.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 13.0 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM Signalized Intersection Capacity Analysis

Construction Year No Project
 AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  |  |  |  | |
| Volume (vph) | 54 | 412 | 238 | 722 | 1031 | 15 | 193 | 116 | 321 | 7 | 186 | 84 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.91 | 1.00 | 1.00 | 0.95 | |
| Frb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.95 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3433 | 3539 | 1562 | 3433 | 3531 | | 1770 | 5085 | 1560 | 1770 | 3347 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3433 | 3539 | 1562 | 3433 | 3531 | | 1770 | 5085 | 1560 | 1770 | 3347 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 59 | 448 | 259 | 785 | 1121 | 16 | 210 | 126 | 349 | 8 | 202 | 91 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 50 | 0 |
| Lane Group Flow (vph) | 59 | 448 | 259 | 785 | 1136 | 0 | 210 | 126 | 349 | 8 | 243 | 0 |
| Confl. Peds. (#/hr) | | | 5 | | | 5 | | | 5 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 20 | | | 5 | | | 5 |
| Turn Type | Prot | NA | Free | Prot | NA | | Prot | NA | Free | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | | | | Free | | | |
| Actuated Green, G (s) | 3.1 | 16.9 | 82.2 | 23.5 | 37.3 | | 11.3 | 25.2 | 82.2 | 0.6 | 14.5 | |
| Effective Green, g (s) | 3.1 | 16.9 | 82.2 | 23.5 | 37.3 | | 11.3 | 25.2 | 82.2 | 0.6 | 14.5 | |
| Actuated g/C Ratio | 0.04 | 0.21 | 1.00 | 0.29 | 0.45 | | 0.14 | 0.31 | 1.00 | 0.01 | 0.18 | |
| Clearance Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 129 | 727 | 1562 | 981 | 1602 | | 243 | 1558 | 1560 | 12 | 590 | |
| v/s Ratio Prot | 0.02 | 0.13 | | c0.23 | c0.32 | | c0.12 | 0.02 | | 0.00 | c0.07 | |
| v/s Ratio Perm | | | 0.17 | | | | | | 0.22 | | | |
| v/c Ratio | 0.46 | 0.62 | 0.17 | 0.80 | 0.71 | | 0.86 | 0.08 | 0.22 | 0.67 | 0.41 | |
| Uniform Delay, d1 | 38.7 | 29.7 | 0.0 | 27.2 | 18.1 | | 34.7 | 20.3 | 0.0 | 40.7 | 30.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 2.6 | 1.6 | 0.2 | 4.7 | 1.5 | | 25.7 | 0.0 | 0.3 | 89.5 | 0.5 | |
| Delay (s) | 41.3 | 31.3 | 0.2 | 31.9 | 19.5 | | 60.4 | 20.3 | 0.3 | 130.2 | 30.5 | |
| Level of Service | D | C | A | C | B | | E | C | A | F | C | |
| Approach Delay (s) | | 21.5 | | | 24.6 | | | 22.4 | | | 33.2 | |
| Approach LOS | | C | | | C | | | C | | | C | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 24.3 | | | | HCM 2000 Level of Service | | | C | | |
| HCM 2000 Volume to Capacity ratio | | | 0.73 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 82.2 | | | | Sum of lost time (s) | | | 16.0 | | |
| Intersection Capacity Utilization | | | 64.3% | | | | ICU Level of Service | | | C | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

11: Parkway Dr./Jorgensen Rd. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Construction Year No Project
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 7 | 628 | 98 | 34 | 1322 | 3 | 318 | 2 | 34 | 5 | 5 | 32 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 8 | 675 | 105 | 37 | 1422 | 3 | 342 | 2 | 37 | 5 | 5 | 34 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 14 | 1519 | 236 | 49 | 1821 | 811 | 396 | 2 | 43 | 55 | 6 | 43 |
| Arrive On Green | 0.01 | 0.49 | 0.49 | 0.03 | 0.51 | 0.51 | 0.25 | 0.25 | 0.25 | 0.03 | 0.03 | 0.03 |
| Sat Flow, veh/h | 1774 | 3069 | 477 | 1774 | 3539 | 1576 | 1574 | 9 | 170 | 1774 | 207 | 1407 |
| Grp Volume(v), veh/h | 8 | 389 | 391 | 37 | 1422 | 3 | 381 | 0 | 0 | 5 | 0 | 39 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1776 | 1774 | 1770 | 1576 | 1754 | 0 | 0 | 1774 | 0 | 1614 |
| Q Serve(g_s), s | 0.4 | 11.7 | 11.7 | 1.7 | 26.7 | 0.1 | 17.0 | 0.0 | 0.0 | 0.2 | 0.0 | 2.0 |
| Cycle Q Clear(g_c), s | 0.4 | 11.7 | 11.7 | 1.7 | 26.7 | 0.1 | 17.0 | 0.0 | 0.0 | 0.2 | 0.0 | 2.0 |
| Prop In Lane | 1.00 | | 0.27 | 1.00 | | 1.00 | 0.90 | | 0.10 | 1.00 | | 0.87 |
| Lane Grp Cap(c), veh/h | 14 | 876 | 879 | 49 | 1821 | 811 | 441 | 0 | 0 | 55 | 0 | 50 |
| V/C Ratio(X) | 0.55 | 0.44 | 0.44 | 0.75 | 0.78 | 0.00 | 0.86 | 0.00 | 0.00 | 0.09 | 0.00 | 0.78 |
| Avail Cap(c_a), veh/h | 87 | 949 | 953 | 130 | 1985 | 884 | 599 | 0 | 0 | 130 | 0 | 118 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 40.5 | 13.4 | 13.4 | 39.6 | 16.2 | 9.7 | 29.4 | 0.0 | 0.0 | 38.6 | 0.0 | 39.5 |
| Incr Delay (d2), s/veh | 29.3 | 0.4 | 0.4 | 20.2 | 1.9 | 0.0 | 9.7 | 0.0 | 0.0 | 0.7 | 0.0 | 22.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 5.7 | 5.7 | 1.1 | 13.5 | 0.0 | 9.4 | 0.0 | 0.0 | 0.1 | 0.0 | 1.2 |
| LnGrp Delay(d),s/veh | 69.9 | 13.8 | 13.8 | 59.7 | 18.1 | 9.7 | 39.0 | 0.0 | 0.0 | 39.3 | 0.0 | 62.2 |
| LnGrp LOS | E | B | B | E | B | A | D | | | D | | E |
| Approach Vol, veh/h | | 788 | | | 1462 | | | 381 | | | | 44 |
| Approach Delay, s/veh | | 14.3 | | | 19.1 | | | 39.0 | | | | 59.6 |
| Approach LOS | | B | | | B | | | D | | | | E |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 24.6 | 6.3 | 44.6 | | 6.5 | 4.7 | 46.2 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 28.0 | 6.0 | 44.0 | | 6.0 | 4.0 | 46.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 19.0 | 3.7 | 13.7 | | 4.0 | 2.4 | 28.7 | | | | |
| Green Ext Time (p_c), s | | 1.6 | 0.0 | 20.6 | | 0.0 | 0.0 | 13.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 21.2 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |

14: Oak Avenue Pkwy. & Creekside Dr./N. Lexington Dr.
 HCM 2010 Signalized Intersection Summary

Construction Year No Project
 AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  |  |  |  |  |  |  |  |
| Volume (veh/h) | 47 | 34 | 84 | 79 | 68 | 138 | 67 | 456 | 47 | 95 | 860 | 161 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1900 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 50 | 36 | 89 | 84 | 72 | 147 | 71 | 485 | 50 | 101 | 915 | 171 |
| Adj No. of Lanes | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 3 | 0 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 99 | 71 | 146 | 141 | 121 | 221 | 91 | 1863 | 189 | 131 | 1809 | 337 |
| Arrive On Green | 0.09 | 0.09 | 0.09 | 0.14 | 0.14 | 0.14 | 0.05 | 0.40 | 0.40 | 0.07 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1052 | 758 | 1558 | 977 | 837 | 1536 | 1774 | 4689 | 477 | 1774 | 4309 | 802 |
| Grp Volume(v), veh/h | 86 | 0 | 89 | 156 | 0 | 147 | 71 | 349 | 186 | 101 | 719 | 367 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 0 | 1558 | 1814 | 0 | 1536 | 1774 | 1695 | 1775 | 1774 | 1695 | 1721 |
| Q Serve(g_s), s | 2.5 | 0.0 | 3.0 | 4.4 | 0.0 | 5.0 | 2.2 | 3.8 | 3.9 | 3.1 | 8.6 | 8.6 |
| Cycle Q Clear(g_c), s | 2.5 | 0.0 | 3.0 | 4.4 | 0.0 | 5.0 | 2.2 | 3.8 | 3.9 | 3.1 | 8.6 | 8.6 |
| Prop In Lane | 0.58 | | 1.00 | 0.54 | | 1.00 | 1.00 | | 0.27 | 1.00 | | 0.47 |
| Lane Grp Cap(c), veh/h | 170 | 0 | 146 | 261 | 0 | 221 | 91 | 1347 | 705 | 131 | 1423 | 723 |
| V/C Ratio(X) | 0.51 | 0.00 | 0.61 | 0.60 | 0.00 | 0.66 | 0.78 | 0.26 | 0.26 | 0.77 | 0.51 | 0.51 |
| Avail Cap(c_a), veh/h | 560 | 0 | 482 | 594 | 0 | 503 | 452 | 2405 | 1259 | 323 | 2158 | 1096 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.7 | 0.0 | 23.9 | 22.0 | 0.0 | 22.3 | 25.8 | 11.1 | 11.2 | 25.0 | 11.7 | 11.8 |
| Incr Delay (d2), s/veh | 2.3 | 0.0 | 4.0 | 2.2 | 0.0 | 3.4 | 13.4 | 0.1 | 0.2 | 9.2 | 0.3 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.0 | 1.4 | 2.4 | 0.0 | 2.3 | 1.4 | 1.8 | 1.9 | 1.9 | 4.1 | 4.2 |
| LnGrp Delay(d),s/veh | 26.0 | 0.0 | 28.0 | 24.2 | 0.0 | 25.7 | 39.1 | 11.2 | 11.4 | 34.2 | 12.0 | 12.3 |
| LnGrp LOS | C | | C | C | | C | D | B | B | C | B | B |
| Approach Vol, veh/h | | 175 | | | 303 | | | 606 | | | 1187 | |
| Approach Delay, s/veh | | 27.0 | | | 24.9 | | | 14.5 | | | 14.0 | |
| Approach LOS | | C | | | C | | | B | | | B | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 8.1 | 25.8 | | 9.2 | 6.8 | 27.1 | | 11.9 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 10.0 | 39.0 | | 17.0 | 14.0 | 35.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 5.9 | | 5.0 | 4.2 | 10.6 | | 7.0 | | | | |
| Green Ext Time (p_c), s | 0.1 | 14.4 | | 0.5 | 0.1 | 12.4 | | 1.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 16.6 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

Intersection

| | |
|---------------------------|-----|
| Intersection Delay, s/veh | 8.9 |
| Intersection LOS | A |

| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBU | NBL | NBR |
|-------------------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 12 | 36 | 0 | 106 | 14 | 0 | 81 | 223 |
| Peak Hour Factor | 0.92 | 0.88 | 0.88 | 0.92 | 0.88 | 0.88 | 0.92 | 0.88 | 0.88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 14 | 41 | 0 | 120 | 16 | 0 | 92 | 253 |
| Number of Lanes | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |

Approach

| Approach | EB | WB | NB |
|----------------------------|-----|-----|----|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 1 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 2 | 1 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 2 | 0 | 1 |
| HCM Control Delay | 7.8 | 9.1 | 9 |
| HCM LOS | A | A | A |

Lane

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 88% |
| Vol Thru, % | 0% | 0% | 25% | 12% |
| Vol Right, % | 0% | 100% | 75% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 81 | 223 | 48 | 120 |
| LT Vol | 81 | 0 | 0 | 106 |
| Through Vol | 0 | 0 | 12 | 14 |
| RT Vol | 0 | 223 | 36 | 0 |
| Lane Flow Rate | 92 | 253 | 55 | 136 |
| Geometry Grp | 7 | 7 | 2 | 2 |
| Degree of Util (X) | 0.141 | 0.303 | 0.067 | 0.187 |
| Departure Headway (Hd) | 5.503 | 4.299 | 4.421 | 4.935 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 653 | 836 | 809 | 728 |
| Service Time | 3.226 | 2.021 | 2.452 | 2.962 |
| HCM Lane V/C Ratio | 0.141 | 0.303 | 0.068 | 0.187 |
| HCM Control Delay | 9.1 | 8.9 | 7.8 | 9.1 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.5 | 1.3 | 0.2 | 0.7 |

8: Flower Dr. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Construction Year No Project
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 108 | 1081 | 59 | 29 | 789 | 59 | 24 | 1 | 15 | 45 | 1 | 53 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.98 | 0.99 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 119 | 1188 | 65 | 32 | 867 | 65 | 26 | 1 | 16 | 49 | 1 | 58 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 157 | 2306 | 126 | 50 | 2051 | 154 | 143 | 17 | 34 | 258 | 2 | 128 |
| Arrive On Green | 0.09 | 0.68 | 0.68 | 0.03 | 0.62 | 0.62 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| Sat Flow, veh/h | 1774 | 3408 | 186 | 1774 | 3330 | 250 | 487 | 213 | 415 | 1372 | 27 | 1560 |
| Grp Volume(v), veh/h | 119 | 616 | 637 | 32 | 461 | 471 | 43 | 0 | 0 | 49 | 0 | 59 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1825 | 1774 | 1770 | 1811 | 1114 | 0 | 0 | 1372 | 0 | 1587 |
| Q Serve(g_s), s | 3.7 | 9.7 | 9.7 | 1.0 | 7.6 | 7.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |
| Cycle Q Clear(g_c), s | 3.7 | 9.7 | 9.7 | 1.0 | 7.6 | 7.6 | 2.6 | 0.0 | 0.0 | 1.5 | 0.0 | 2.0 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.14 | 0.60 | | 0.37 | 1.00 | | 0.98 |
| Lane Grp Cap(c), veh/h | 157 | 1197 | 1235 | 50 | 1090 | 1115 | 194 | 0 | 0 | 258 | 0 | 130 |
| V/C Ratio(X) | 0.76 | 0.51 | 0.52 | 0.64 | 0.42 | 0.42 | 0.22 | 0.00 | 0.00 | 0.19 | 0.00 | 0.45 |
| Avail Cap(c_a), veh/h | 600 | 2017 | 2080 | 284 | 1702 | 1741 | 458 | 0 | 0 | 513 | 0 | 424 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.0 | 4.5 | 4.5 | 27.0 | 5.6 | 5.6 | 24.7 | 0.0 | 0.0 | 24.4 | 0.0 | 24.6 |
| Incr Delay (d2), s/veh | 7.2 | 0.3 | 0.3 | 13.1 | 0.3 | 0.3 | 0.6 | 0.0 | 0.0 | 0.4 | 0.0 | 2.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 4.7 | 4.9 | 0.7 | 3.7 | 3.7 | 0.7 | 0.0 | 0.0 | 0.7 | 0.0 | 1.0 |
| LnGrp Delay(d),s/veh | 32.2 | 4.9 | 4.8 | 40.1 | 5.9 | 5.9 | 25.3 | 0.0 | 0.0 | 24.7 | 0.0 | 27.1 |
| LnGrp LOS | C | A | A | D | A | A | C | | | C | | C |
| Approach Vol, veh/h | | 1372 | | | 964 | | | 43 | | | | 108 |
| Approach Delay, s/veh | | 7.2 | | | 7.0 | | | 25.3 | | | | 26.0 |
| Approach LOS | | A | | | A | | | C | | | | C |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 8.6 | 5.6 | 42.0 | | 8.6 | 9.0 | 38.6 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 15.0 | 9.0 | 64.0 | | 15.0 | 19.0 | 54.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 4.6 | 3.0 | 11.7 | | 4.0 | 5.7 | 9.6 | | | | |
| Green Ext Time (p_c), s | | 0.4 | 0.0 | 26.3 | | 0.5 | 0.2 | 24.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 8.3 | | | | | | | | | |
| HCM 2010 LOS | | | A | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM Signalized Intersection Capacity Analysis

Construction Year No Project
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|------|-------|-------|-------|------|---------------------------|------|------|-------|-------|------|------|
| Lane Configurations | ↖↗ | ↕ | ↖ | ↖↗ | ↕ | | ↖ | ↕↕↕ | ↖ | ↖ | ↕ | |
| Volume (vph) | 78 | 943 | 131 | 435 | 710 | 15 | 140 | 218 | 880 | 14 | 106 | 39 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.91 | 1.00 | 1.00 | 0.95 | |
| Frb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.96 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3433 | 3539 | 1563 | 3433 | 3527 | | 1770 | 5085 | 1583 | 1770 | 3379 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3433 | 3539 | 1563 | 3433 | 3527 | | 1770 | 5085 | 1583 | 1770 | 3379 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 85 | 1025 | 142 | 473 | 772 | 16 | 152 | 237 | 957 | 15 | 115 | 42 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 36 | 0 |
| Lane Group Flow (vph) | 85 | 1025 | 142 | 473 | 787 | 0 | 152 | 237 | 957 | 15 | 121 | 0 |
| Confl. Peds. (#/hr) | | | | | | 5 | | | | | | |
| Confl. Bikes (#/hr) | | | 5 | | | | | | | | | 5 |
| Turn Type | Prot | NA | Free | Prot | NA | | Prot | NA | Free | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | | | | Free | | | |
| Actuated Green, G (s) | 3.1 | 32.8 | 85.7 | 13.3 | 43.0 | | 11.9 | 22.8 | 85.7 | 0.8 | 11.7 | |
| Effective Green, g (s) | 3.1 | 32.8 | 85.7 | 13.3 | 43.0 | | 11.9 | 22.8 | 85.7 | 0.8 | 11.7 | |
| Actuated g/C Ratio | 0.04 | 0.38 | 1.00 | 0.16 | 0.50 | | 0.14 | 0.27 | 1.00 | 0.01 | 0.14 | |
| Clearance Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 124 | 1354 | 1563 | 532 | 1769 | | 245 | 1352 | 1583 | 16 | 461 | |
| v/s Ratio Prot | 0.02 | c0.29 | | c0.14 | 0.22 | | 0.09 | 0.05 | | 0.01 | 0.04 | |
| v/s Ratio Perm | | | 0.09 | | | | | | c0.60 | | | |
| v/c Ratio | 0.69 | 0.76 | 0.09 | 0.89 | 0.44 | | 0.62 | 0.18 | 0.60 | 0.94 | 0.26 | |
| Uniform Delay, d1 | 40.8 | 23.0 | 0.0 | 35.5 | 13.7 | | 34.8 | 24.2 | 0.0 | 42.4 | 33.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 14.6 | 2.5 | 0.1 | 16.5 | 0.2 | | 4.8 | 0.1 | 1.7 | 191.7 | 0.3 | |
| Delay (s) | 55.4 | 25.5 | 0.1 | 52.0 | 13.9 | | 39.6 | 24.3 | 1.7 | 234.1 | 33.4 | |
| Level of Service | E | C | A | D | B | | D | C | A | F | C | |
| Approach Delay (s) | | 24.6 | | | 28.2 | | | 10.0 | | | 50.9 | |
| Approach LOS | | C | | | C | | | A | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 22.0 | | | HCM 2000 Level of Service | | | C | | | |
| HCM 2000 Volume to Capacity ratio | | | 0.80 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 85.7 | | | Sum of lost time (s) | | 16.0 | | | | |
| Intersection Capacity Utilization | | | 63.7% | | | ICU Level of Service | | B | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

11: Parkway Dr./Jorgensen Rd. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Construction Year No Project
 PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  | |  | |  |  | |
| Volume (veh/h) | 29 | 1406 | 277 | 42 | 936 | 11 | 142 | 3 | 29 | 6 | 1 | 20 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 32 | 1528 | 301 | 46 | 1017 | 12 | 154 | 3 | 32 | 7 | 1 | 22 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 44 | 1864 | 357 | 58 | 2264 | 1013 | 186 | 4 | 39 | 42 | 2 | 36 |
| Arrive On Green | 0.02 | 0.63 | 0.63 | 0.03 | 0.64 | 0.64 | 0.13 | 0.13 | 0.13 | 0.02 | 0.02 | 0.02 |
| Sat Flow, veh/h | 1774 | 2952 | 565 | 1774 | 3539 | 1583 | 1418 | 28 | 295 | 1774 | 69 | 1524 |
| Grp Volume(v), veh/h | 32 | 898 | 931 | 46 | 1017 | 12 | 189 | 0 | 0 | 7 | 0 | 23 |
| Grp Sat Flow(s), veh/h/ln | 1774 | 1770 | 1747 | 1774 | 1770 | 1583 | 1740 | 0 | 0 | 1774 | 0 | 1594 |
| Q Serve(g_s), s | 1.6 | 33.6 | 37.2 | 2.3 | 12.9 | 0.2 | 9.4 | 0.0 | 0.0 | 0.3 | 0.0 | 1.3 |
| Cycle Q Clear(g_c), s | 1.6 | 33.6 | 37.2 | 2.3 | 12.9 | 0.2 | 9.4 | 0.0 | 0.0 | 0.3 | 0.0 | 1.3 |
| Prop In Lane | 1.00 | | 0.32 | 1.00 | | 1.00 | 0.81 | | 0.17 | 1.00 | | 0.96 |
| Lane Grp Cap(c), veh/h | 44 | 1117 | 1103 | 58 | 2264 | 1013 | 229 | 0 | 0 | 42 | 0 | 38 |
| V/C Ratio(X) | 0.73 | 0.80 | 0.84 | 0.79 | 0.45 | 0.01 | 0.83 | 0.00 | 0.00 | 0.17 | 0.00 | 0.61 |
| Avail Cap(c_a), veh/h | 120 | 1159 | 1145 | 80 | 2264 | 1013 | 314 | 0 | 0 | 120 | 0 | 108 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.9 | 12.2 | 12.9 | 42.5 | 8.1 | 5.8 | 37.5 | 0.0 | 0.0 | 42.4 | 0.0 | 42.8 |
| Incr Delay (d2), s/veh | 20.8 | 4.1 | 5.8 | 29.7 | 0.1 | 0.0 | 12.1 | 0.0 | 0.0 | 1.9 | 0.0 | 15.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 17.5 | 19.4 | 1.6 | 6.3 | 0.1 | 5.3 | 0.0 | 0.0 | 0.2 | 0.0 | 0.7 |
| LnGrp Delay(d),s/veh | 63.7 | 16.3 | 18.6 | 72.2 | 8.2 | 5.8 | 49.6 | 0.0 | 0.0 | 44.2 | 0.0 | 57.9 |
| LnGrp LOS | E | B | B | E | A | A | D | | | D | | E |
| Approach Vol, veh/h | | 1861 | | | 1075 | | | 189 | | | 30 | |
| Approach Delay, s/veh | | 18.3 | | | 10.9 | | | 49.6 | | | 54.7 | |
| Approach LOS | | B | | | B | | | D | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 15.6 | 6.9 | 59.9 | | 6.1 | 6.2 | 60.6 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 16.0 | 4.0 | 58.0 | | 6.0 | 6.0 | 56.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 11.4 | 4.3 | 39.2 | | 3.3 | 3.6 | 14.9 | | | | |
| Green Ext Time (p_c), s | | 0.4 | 0.0 | 16.7 | | 0.0 | 0.0 | 33.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 18.0 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

14: Oak Avenue Pkwy. & Creekside Dr./N. Lexington Dr.
 HCM 2010 Signalized Intersection Summary

Construction Year No Project
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 159 | 58 | 63 | 43 | 25 | 71 | 66 | 1007 | 84 | 75 | 550 | 50 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1900 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 169 | 62 | 67 | 46 | 27 | 76 | 70 | 1071 | 89 | 80 | 585 | 53 |
| Adj No. of Lanes | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 3 | 0 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 231 | 85 | 273 | 89 | 52 | 121 | 90 | 2028 | 168 | 103 | 2049 | 184 |
| Arrive On Green | 0.18 | 0.18 | 0.18 | 0.08 | 0.08 | 0.08 | 0.05 | 0.42 | 0.42 | 0.06 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1315 | 482 | 1554 | 1138 | 668 | 1542 | 1774 | 4775 | 396 | 1774 | 4738 | 425 |
| Grp Volume(v), veh/h | 231 | 0 | 67 | 73 | 0 | 76 | 70 | 760 | 400 | 80 | 417 | 221 |
| Grp Sat Flow(s),veh/h/ln | 1797 | 0 | 1554 | 1806 | 0 | 1542 | 1774 | 1695 | 1781 | 1774 | 1695 | 1772 |
| Q Serve(g_s), s | 7.4 | 0.0 | 2.3 | 2.4 | 0.0 | 2.9 | 2.4 | 10.1 | 10.1 | 2.7 | 4.8 | 4.9 |
| Cycle Q Clear(g_c), s | 7.4 | 0.0 | 2.3 | 2.4 | 0.0 | 2.9 | 2.4 | 10.1 | 10.1 | 2.7 | 4.8 | 4.9 |
| Prop In Lane | 0.73 | | 1.00 | 0.63 | | 1.00 | 1.00 | | 0.22 | 1.00 | | 0.24 |
| Lane Grp Cap(c), veh/h | 316 | 0 | 273 | 141 | 0 | 121 | 90 | 1440 | 756 | 103 | 1466 | 766 |
| V/C Ratio(X) | 0.73 | 0.00 | 0.25 | 0.52 | 0.00 | 0.63 | 0.78 | 0.53 | 0.53 | 0.77 | 0.28 | 0.29 |
| Avail Cap(c_a), veh/h | 739 | 0 | 639 | 327 | 0 | 279 | 321 | 2007 | 1055 | 350 | 2063 | 1079 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.7 | 0.0 | 21.6 | 26.9 | 0.0 | 27.2 | 28.5 | 13.0 | 13.0 | 28.2 | 11.2 | 11.2 |
| Incr Delay (d2), s/veh | 3.3 | 0.0 | 0.5 | 2.9 | 0.0 | 5.3 | 13.6 | 0.3 | 0.6 | 11.5 | 0.1 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.9 | 0.0 | 1.0 | 1.3 | 0.0 | 1.4 | 1.5 | 4.7 | 5.0 | 1.6 | 2.3 | 2.4 |
| LnGrp Delay(d),s/veh | 27.0 | 0.0 | 22.0 | 29.8 | 0.0 | 32.5 | 42.1 | 13.3 | 13.6 | 39.7 | 11.3 | 11.4 |
| LnGrp LOS | C | | C | C | | C | D | B | B | D | B | B |
| Approach Vol, veh/h | | 298 | | | 149 | | | 1230 | | | 718 | |
| Approach Delay, s/veh | | 25.9 | | | 31.2 | | | 15.0 | | | 14.5 | |
| Approach LOS | | C | | | C | | | B | | | B | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 7.5 | 29.8 | | 14.7 | 7.1 | 30.3 | | 8.8 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 12.0 | 36.0 | | 25.0 | 11.0 | 37.0 | | 11.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.7 | 12.1 | | 9.4 | 4.4 | 6.9 | | 4.9 | | | | |
| Green Ext Time (p_c), s | 0.1 | 13.7 | | 1.4 | 0.1 | 15.6 | | 0.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 17.2 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

APPENDIX D

**CONSTRUCTION YEAR PLUS PROJECT CONDITIONS
LEVEL OF SERVICE CALCULATION WORKSHEETS**

Intersection

Intersection Delay, s/veh 12.6

Intersection LOS B

| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBU | NBL | NBR |
|-------------------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 27 | 46 | 0 | 229 | 79 | 0 | 76 | 112 |
| Peak Hour Factor | 0.92 | 0.70 | 0.70 | 0.92 | 0.70 | 0.70 | 0.92 | 0.70 | 0.70 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 39 | 66 | 0 | 327 | 113 | 0 | 109 | 160 |
| Number of Lanes | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |

Approach

| | EB | WB | NB |
|----------------------------|-----|------|-----|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 1 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 2 | 1 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 2 | 0 | 1 |
| HCM Control Delay | 8.7 | 15.1 | 9.9 |
| HCM LOS | A | C | A |

Lane

| | NBLn1 | NBLn2 | EBLn1 | WBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 74% |
| Vol Thru, % | 0% | 0% | 37% | 26% |
| Vol Right, % | 0% | 100% | 63% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 76 | 112 | 73 | 308 |
| LT Vol | 76 | 0 | 0 | 229 |
| Through Vol | 0 | 0 | 27 | 79 |
| RT Vol | 0 | 112 | 46 | 0 |
| Lane Flow Rate | 109 | 160 | 104 | 440 |
| Geometry Grp | 7 | 7 | 2 | 2 |
| Degree of Util (X) | 0.191 | 0.228 | 0.139 | 0.599 |
| Departure Headway (Hd) | 6.343 | 5.13 | 4.798 | 4.897 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 561 | 693 | 738 | 735 |
| Service Time | 4.132 | 2.918 | 2.883 | 2.955 |
| HCM Lane V/C Ratio | 0.194 | 0.231 | 0.141 | 0.599 |
| HCM Control Delay | 10.6 | 9.5 | 8.7 | 15.1 |
| HCM Lane LOS | B | A | A | C |
| HCM-95th-tile Q | 0.7 | 0.9 | 0.5 | 4 |

8: Flower Dr. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Construction Year + Project
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 41 | 560 | 9 | 20 | 1253 | 47 | 31 | 10 | 26 | 98 | 6 | 158 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 49 | 667 | 10 | 22 | 1492 | 56 | 37 | 12 | 31 | 117 | 7 | 188 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.84 | 0.84 | 0.89 | 0.89 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 62 | 2298 | 34 | 35 | 2185 | 82 | 109 | 45 | 53 | 294 | 10 | 267 |
| Arrive On Green | 0.03 | 0.64 | 0.64 | 0.02 | 0.63 | 0.63 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| Sat Flow, veh/h | 1774 | 3569 | 53 | 1774 | 3474 | 130 | 218 | 257 | 300 | 1358 | 57 | 1522 |
| Grp Volume(v), veh/h | 49 | 331 | 346 | 22 | 758 | 790 | 80 | 0 | 0 | 117 | 0 | 195 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1853 | 1774 | 1770 | 1834 | 775 | 0 | 0 | 1358 | 0 | 1579 |
| Q Serve(g_s), s | 2.0 | 6.1 | 6.1 | 0.9 | 20.8 | 20.9 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 8.7 |
| Cycle Q Clear(g_c), s | 2.0 | 6.1 | 6.1 | 0.9 | 20.8 | 20.9 | 9.9 | 0.0 | 0.0 | 7.7 | 0.0 | 8.7 |
| Prop In Lane | 1.00 | | 0.03 | 1.00 | | 0.07 | 0.46 | | 0.39 | 1.00 | | 0.96 |
| Lane Grp Cap(c), veh/h | 62 | 1140 | 1193 | 35 | 1113 | 1154 | 207 | 0 | 0 | 294 | 0 | 277 |
| V/C Ratio(X) | 0.80 | 0.29 | 0.29 | 0.63 | 0.68 | 0.68 | 0.39 | 0.00 | 0.00 | 0.40 | 0.00 | 0.70 |
| Avail Cap(c_a), veh/h | 166 | 1494 | 1564 | 143 | 1470 | 1524 | 317 | 0 | 0 | 402 | 0 | 402 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 35.8 | 5.8 | 5.8 | 36.3 | 9.0 | 9.0 | 28.2 | 0.0 | 0.0 | 28.5 | 0.0 | 28.9 |
| Incr Delay (d2), s/veh | 20.1 | 0.1 | 0.1 | 17.3 | 0.8 | 0.8 | 1.2 | 0.0 | 0.0 | 0.9 | 0.0 | 3.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.3 | 3.0 | 3.1 | 0.6 | 10.2 | 10.6 | 1.6 | 0.0 | 0.0 | 2.3 | 0.0 | 4.0 |
| LnGrp Delay(d),s/veh | 55.9 | 6.0 | 6.0 | 53.7 | 9.8 | 9.9 | 29.3 | 0.0 | 0.0 | 29.4 | 0.0 | 32.2 |
| LnGrp LOS | E | A | A | D | A | A | C | | | C | | C |
| Approach Vol, veh/h | | 726 | | | 1570 | | | 80 | | | | 312 |
| Approach Delay, s/veh | | 9.3 | | | 10.4 | | | 29.3 | | | | 31.1 |
| Approach LOS | | A | | | B | | | C | | | | C |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 17.1 | 5.5 | 52.1 | | 17.1 | 6.6 | 50.9 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 19.0 | 6.0 | 63.0 | | 19.0 | 7.0 | 62.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 11.9 | 2.9 | 8.1 | | 10.7 | 4.0 | 22.9 | | | | |
| Green Ext Time (p_c), s | | 1.2 | 0.0 | 28.9 | | 1.3 | 0.0 | 24.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 13.1 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd. HCM Signalized Intersection Capacity Analysis

Construction Year + Project
AM Peak Hour

| Movement | EBU | EBL | EBT | EBR | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBU | |
|-----------------------------------|------|------|-------|------|-------|-------|------|------|-------|------|------|---------------------------|------|
| Lane Configurations | | | | | | | | | | | | | |
| Volume (vph) | 9 | 56 | 424 | 238 | 725 | 1031 | 15 | 2 | 193 | 116 | 321 | 7 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | | | 1.00 | 0.91 | 1.00 | 1.00 | |
| Frbp, ped/bikes | | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | | 1.00 | 1.00 | 0.99 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 1.00 | 0.85 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (prot) | | 3433 | 3539 | 1562 | 3433 | 3531 | | | 1770 | 5085 | 1560 | 1770 | |
| Flt Permitted | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (perm) | | 3433 | 3539 | 1562 | 3433 | 3531 | | | 1770 | 5085 | 1560 | 1770 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Adj. Flow (vph) | 10 | 61 | 461 | 259 | 788 | 1121 | 16 | 2 | 210 | 126 | 349 | 8 | |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Lane Group Flow (vph) | 0 | 71 | 461 | 259 | 788 | 1136 | 0 | 0 | 212 | 126 | 349 | 8 | |
| Confl. Peds. (#/hr) | | | | 5 | | | 5 | | | | 5 | | |
| Confl. Bikes (#/hr) | | | | | | | 20 | | | | 5 | | |
| Turn Type | Prot | Prot | NA | Free | Prot | NA | | Prot | Prot | NA | Free | Prot | |
| Protected Phases | 7 | 7 | 4 | | 3 | 8 | | 5 | 5 | 2 | | 1 | |
| Permitted Phases | | | | Free | | | | | | | Free | | |
| Actuated Green, G (s) | | 3.1 | 17.2 | 82.7 | 23.7 | 37.8 | | | 11.3 | 25.2 | 82.7 | 0.6 | |
| Effective Green, g (s) | | 3.1 | 17.2 | 82.7 | 23.7 | 37.8 | | | 11.3 | 25.2 | 82.7 | 0.6 | |
| Actuated g/C Ratio | | 0.04 | 0.21 | 1.00 | 0.29 | 0.46 | | | 0.14 | 0.30 | 1.00 | 0.01 | |
| Clearance Time (s) | | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 | | | 3.0 | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 128 | 736 | 1562 | 983 | 1613 | | | 241 | 1549 | 1560 | 12 | |
| v/s Ratio Prot | | 0.02 | 0.13 | | c0.23 | c0.32 | | | c0.12 | 0.02 | | 0.00 | |
| v/s Ratio Perm | | | | 0.17 | | | | | | | 0.22 | | |
| v/c Ratio | | 0.55 | 0.63 | 0.17 | 0.80 | 0.70 | | | 0.88 | 0.08 | 0.22 | 0.67 | |
| Uniform Delay, d1 | | 39.1 | 29.8 | 0.0 | 27.3 | 18.0 | | | 35.0 | 20.5 | 0.0 | 41.0 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 5.1 | 1.7 | 0.2 | 4.8 | 1.4 | | | 28.4 | 0.0 | 0.3 | 89.5 | |
| Delay (s) | | 44.2 | 31.5 | 0.2 | 32.1 | 19.4 | | | 63.4 | 20.5 | 0.3 | 130.4 | |
| Level of Service | | D | C | A | C | B | | | E | C | A | F | |
| Approach Delay (s) | | | 22.4 | | | 24.6 | | | | 23.5 | | | |
| Approach LOS | | | C | | | C | | | | C | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 24.6 | | | | | | | | | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | | | 0.73 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 82.7 | | | | | | | | | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | | | 64.5% | | | | | | | | | ICU Level of Service | C |
| Analysis Period (min) | | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM Signalized Intersection Capacity Analysis

Construction Year + Project
 AM Peak Hour



| Movement | SBT | SBR |
|------------------------|-------|------|
| Lane Configurations | ↑↓ | |
| Volume (vph) | 186 | 84 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 4.0 | |
| Lane Util. Factor | 0.95 | |
| Frbp, ped/bikes | 0.99 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.95 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 3353 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 3353 | |
| Peak-hour factor, PHF | 0.92 | 0.92 |
| Adj. Flow (vph) | 202 | 91 |
| RTOR Reduction (vph) | 50 | 0 |
| Lane Group Flow (vph) | 243 | 0 |
| Confl. Peds. (#/hr) | | 5 |
| Confl. Bikes (#/hr) | | |
| Turn Type | NA | |
| Protected Phases | 6 | |
| Permitted Phases | | |
| Actuated Green, G (s) | 14.5 | |
| Effective Green, g (s) | 14.5 | |
| Actuated g/C Ratio | 0.18 | |
| Clearance Time (s) | 4.0 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 587 | |
| v/s Ratio Prot | c0.07 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.41 | |
| Uniform Delay, d1 | 30.3 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 0.5 | |
| Delay (s) | 30.8 | |
| Level of Service | C | |
| Approach Delay (s) | 33.4 | |
| Approach LOS | C | |

Intersection Summary

11: Parkway Dr./Jorgensen Rd. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Construction Year + Project
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 7 | 640 | 98 | 34 | 1325 | 3 | 318 | 2 | 34 | 5 | 5 | 32 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 8 | 688 | 105 | 37 | 1425 | 3 | 342 | 2 | 37 | 5 | 5 | 34 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 14 | 1556 | 237 | 49 | 1858 | 827 | 387 | 2 | 42 | 55 | 6 | 43 |
| Arrive On Green | 0.01 | 0.51 | 0.51 | 0.03 | 0.53 | 0.53 | 0.25 | 0.25 | 0.25 | 0.03 | 0.03 | 0.03 |
| Sat Flow, veh/h | 1774 | 3078 | 469 | 1774 | 3539 | 1576 | 1574 | 9 | 170 | 1774 | 207 | 1407 |
| Grp Volume(v), veh/h | 8 | 395 | 398 | 37 | 1425 | 3 | 381 | 0 | 0 | 5 | 0 | 39 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1777 | 1774 | 1770 | 1576 | 1754 | 0 | 0 | 1774 | 0 | 1614 |
| Q Serve(g_s), s | 0.4 | 12.0 | 12.0 | 1.7 | 27.0 | 0.1 | 17.6 | 0.0 | 0.0 | 0.2 | 0.0 | 2.0 |
| Cycle Q Clear(g_c), s | 0.4 | 12.0 | 12.0 | 1.7 | 27.0 | 0.1 | 17.6 | 0.0 | 0.0 | 0.2 | 0.0 | 2.0 |
| Prop In Lane | 1.00 | | 0.26 | 1.00 | | 1.00 | 0.90 | | 0.10 | 1.00 | | 0.87 |
| Lane Grp Cap(c), veh/h | 14 | 895 | 899 | 49 | 1858 | 827 | 431 | 0 | 0 | 55 | 0 | 50 |
| V/C Ratio(X) | 0.56 | 0.44 | 0.44 | 0.76 | 0.77 | 0.00 | 0.88 | 0.00 | 0.00 | 0.09 | 0.00 | 0.78 |
| Avail Cap(c_a), veh/h | 84 | 1009 | 1013 | 105 | 2060 | 917 | 521 | 0 | 0 | 126 | 0 | 115 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 41.6 | 13.2 | 13.3 | 40.7 | 15.9 | 9.5 | 30.6 | 0.0 | 0.0 | 39.7 | 0.0 | 40.5 |
| Incr Delay (d2), s/veh | 29.5 | 0.3 | 0.3 | 20.9 | 1.6 | 0.0 | 14.3 | 0.0 | 0.0 | 0.7 | 0.0 | 22.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.3 | 5.9 | 5.9 | 1.1 | 13.5 | 0.0 | 10.2 | 0.0 | 0.0 | 0.1 | 0.0 | 1.2 |
| LnGrp Delay(d),s/veh | 71.1 | 13.6 | 13.6 | 61.6 | 17.5 | 9.5 | 44.9 | 0.0 | 0.0 | 40.4 | 0.0 | 63.4 |
| LnGrp LOS | E | B | B | E | B | A | D | | | D | | E |
| Approach Vol, veh/h | | 801 | | | 1465 | | | 381 | | | | 44 |
| Approach Delay, s/veh | | 14.2 | | | 18.6 | | | 44.9 | | | | 60.8 |
| Approach LOS | | B | | | B | | | D | | | | E |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 24.7 | 6.3 | 46.6 | | 6.6 | 4.7 | 48.2 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 25.0 | 5.0 | 48.0 | | 6.0 | 4.0 | 49.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 19.6 | 3.7 | 14.0 | | 4.0 | 2.4 | 29.0 | | | | |
| Green Ext Time (p_c), s | | 1.1 | 0.0 | 22.4 | | 0.0 | 0.0 | 15.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 21.7 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |

14: Oak Avenue Pkwy. & Creekside Dr./N. Lexington Dr.
 HCM 2010 Signalized Intersection Summary

Construction Year + Project
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 47 | 34 | 84 | 79 | 68 | 138 | 67 | 458 | 47 | 95 | 867 | 161 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1900 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 50 | 36 | 89 | 84 | 72 | 147 | 71 | 487 | 50 | 101 | 922 | 171 |
| Adj No. of Lanes | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 3 | 0 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 99 | 71 | 146 | 141 | 120 | 221 | 91 | 1869 | 189 | 131 | 1816 | 336 |
| Arrive On Green | 0.09 | 0.09 | 0.09 | 0.14 | 0.14 | 0.14 | 0.05 | 0.40 | 0.40 | 0.07 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1052 | 758 | 1558 | 977 | 837 | 1536 | 1774 | 4691 | 475 | 1774 | 4315 | 797 |
| Grp Volume(v), veh/h | 86 | 0 | 89 | 156 | 0 | 147 | 71 | 350 | 187 | 101 | 724 | 369 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 0 | 1558 | 1814 | 0 | 1536 | 1774 | 1695 | 1775 | 1774 | 1695 | 1722 |
| Q Serve(g_s), s | 2.5 | 0.0 | 3.0 | 4.4 | 0.0 | 5.0 | 2.2 | 3.8 | 3.9 | 3.1 | 8.7 | 8.7 |
| Cycle Q Clear(g_c), s | 2.5 | 0.0 | 3.0 | 4.4 | 0.0 | 5.0 | 2.2 | 3.8 | 3.9 | 3.1 | 8.7 | 8.7 |
| Prop In Lane | 0.58 | | 1.00 | 0.54 | | 1.00 | 1.00 | | 0.27 | 1.00 | | 0.46 |
| Lane Grp Cap(c), veh/h | 170 | 0 | 146 | 261 | 0 | 221 | 91 | 1351 | 707 | 131 | 1427 | 725 |
| V/C Ratio(X) | 0.51 | 0.00 | 0.61 | 0.60 | 0.00 | 0.67 | 0.78 | 0.26 | 0.26 | 0.77 | 0.51 | 0.51 |
| Avail Cap(c_a), veh/h | 558 | 0 | 480 | 592 | 0 | 501 | 450 | 2397 | 1255 | 322 | 2151 | 1093 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.8 | 0.0 | 24.0 | 22.1 | 0.0 | 22.4 | 25.9 | 11.1 | 11.2 | 25.1 | 11.8 | 11.8 |
| Incr Delay (d2), s/veh | 2.3 | 0.0 | 4.1 | 2.2 | 0.0 | 3.4 | 13.4 | 0.1 | 0.2 | 9.2 | 0.3 | 0.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 0.0 | 1.4 | 2.4 | 0.0 | 2.3 | 1.4 | 1.8 | 1.9 | 1.9 | 4.1 | 4.2 |
| LnGrp Delay(d),s/veh | 26.1 | 0.0 | 28.1 | 24.3 | 0.0 | 25.8 | 39.2 | 11.2 | 11.3 | 34.3 | 12.0 | 12.3 |
| LnGrp LOS | C | | C | C | | C | D | B | B | C | B | B |
| Approach Vol, veh/h | | 175 | | | 303 | | | 608 | | | 1194 | |
| Approach Delay, s/veh | | 27.1 | | | 25.0 | | | 14.5 | | | 14.0 | |
| Approach LOS | | C | | | C | | | B | | | B | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 8.1 | 26.0 | | 9.2 | 6.8 | 27.2 | | 11.9 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 10.0 | 39.0 | | 17.0 | 14.0 | 35.0 | | 18.0 | | | | |
| Max Q Clear Time (g_c+l1), s | 5.1 | 5.9 | | 5.0 | 4.2 | 10.7 | | 7.0 | | | | |
| Green Ext Time (p_c), s | 0.1 | 14.5 | | 0.5 | 0.1 | 12.5 | | 1.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 16.6 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

Intersection

Int Delay, s/veh 0.1

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 704 | 2 | 0 | 1308 | 0 | 23 |
| Conflicting Peds, #/hr | 0 | 5 | 0 | 0 | 0 | 5 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 765 | 2 | 0 | 1422 | 0 | 25 |

| Major/Minor | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 772 |
| Stage 1 | - | - | 771 |
| Stage 2 | - | - | 711 |
| Critical Hdwy | - | 4.14 | 6.84 |
| Critical Hdwy Stg 1 | - | - | 5.84 |
| Critical Hdwy Stg 2 | - | - | 5.84 |
| Follow-up Hdwy | - | 2.22 | 3.52 |
| Pot Cap-1 Maneuver | - | 839 | 116 |
| Stage 1 | - | - | 417 |
| Stage 2 | - | - | 448 |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | - | 839 | 115 |
| Mov Cap-2 Maneuver | - | - | 115 |
| Stage 1 | - | - | 415 |
| Stage 2 | - | - | 446 |

| Approach | EB | WB | NB |
|----------------------|----|----|------|
| HCM Control Delay, s | 0 | 0 | 11.2 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-----|-----|
| Capacity (veh/h) | 607 | - | - | 839 | - |
| HCM Lane V/C Ratio | 0.041 | - | - | - | - |
| HCM Control Delay (s) | 11.2 | - | - | 0 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0 | - |

Intersection

Int Delay, s/veh 0.1

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 7 | 0 | 641 | 1116 | 5 |
| Conflicting Peds, #/hr | 0 | 5 | 0 | 0 | 0 | 5 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 8 | 0 | 697 | 1213 | 5 |

| Major/Minor | Minor2 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 1500 | 614 | 1223 |
| Stage 1 | 1221 | - | - |
| Stage 2 | 279 | - | - |
| Critical Hdwy | 5.74 | 7.14 | 5.34 |
| Critical Hdwy Stg 1 | 6.64 | - | - |
| Critical Hdwy Stg 2 | 6.04 | - | - |
| Follow-up Hdwy | 3.82 | 3.92 | 3.12 |
| Pot Cap-1 Maneuver | 172 | 373 | 305 |
| Stage 1 | 177 | - | - |
| Stage 2 | 682 | - | - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | 171 | 371 | 305 |
| Mov Cap-2 Maneuver | 171 | - | - |
| Stage 1 | 176 | - | - |
| Stage 2 | 679 | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 14.9 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-----|-----|-------|-----|-----|
| Capacity (veh/h) | 305 | - | 371 | - | - |
| HCM Lane V/C Ratio | - | - | 0.021 | - | - |
| HCM Control Delay (s) | 0 | - | 14.9 | - | - |
| HCM Lane LOS | A | - | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.1 | - | - |

Intersection

Intersection Delay, s/veh 8.9
 Intersection LOS A

| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBU | NBL | NBR |
|-------------------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 12 | 36 | 0 | 107 | 14 | 0 | 81 | 224 |
| Peak Hour Factor | 0.92 | 0.88 | 0.88 | 0.92 | 0.88 | 0.88 | 0.92 | 0.88 | 0.88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 14 | 41 | 0 | 122 | 16 | 0 | 92 | 255 |
| Number of Lanes | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |

Approach

| Approach | EB | WB | NB |
|----------------------------|-----|-----|----|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 1 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 2 | 1 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 2 | 0 | 1 |
| HCM Control Delay | 7.8 | 9.1 | 9 |
| HCM LOS | A | A | A |

Lane

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 88% |
| Vol Thru, % | 0% | 0% | 25% | 12% |
| Vol Right, % | 0% | 100% | 75% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 81 | 224 | 48 | 121 |
| LT Vol | 81 | 0 | 0 | 107 |
| Through Vol | 0 | 0 | 12 | 14 |
| RT Vol | 0 | 224 | 36 | 0 |
| Lane Flow Rate | 92 | 255 | 55 | 138 |
| Geometry Grp | 7 | 7 | 2 | 2 |
| Degree of Util (X) | 0.141 | 0.304 | 0.067 | 0.189 |
| Departure Headway (Hd) | 5.505 | 4.301 | 4.423 | 4.937 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 653 | 837 | 809 | 727 |
| Service Time | 3.23 | 2.025 | 2.455 | 2.963 |
| HCM Lane V/C Ratio | 0.141 | 0.305 | 0.068 | 0.19 |
| HCM Control Delay | 9.1 | 8.9 | 7.8 | 9.1 |
| HCM Lane LOS | A | A | A | A |
| HCM 95th-tile Q | 0.5 | 1.3 | 0.2 | 0.7 |

8: Flower Dr. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Construction Year + Project
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 108 | 1090 | 59 | 29 | 794 | 59 | 24 | 1 | 15 | 45 | 1 | 53 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.98 | 0.99 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 119 | 1198 | 65 | 32 | 873 | 65 | 26 | 1 | 16 | 49 | 1 | 58 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 157 | 2314 | 125 | 50 | 2059 | 153 | 142 | 17 | 34 | 257 | 2 | 127 |
| Arrive On Green | 0.09 | 0.68 | 0.68 | 0.03 | 0.62 | 0.62 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| Sat Flow, veh/h | 1774 | 3410 | 185 | 1774 | 3332 | 248 | 486 | 214 | 415 | 1372 | 27 | 1560 |
| Grp Volume(v), veh/h | 119 | 621 | 642 | 32 | 464 | 474 | 43 | 0 | 0 | 49 | 0 | 59 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1825 | 1774 | 1770 | 1811 | 1114 | 0 | 0 | 1372 | 0 | 1587 |
| Q Serve(g_s), s | 3.7 | 9.8 | 9.9 | 1.0 | 7.7 | 7.7 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |
| Cycle Q Clear(g_c), s | 3.7 | 9.8 | 9.9 | 1.0 | 7.7 | 7.7 | 2.7 | 0.0 | 0.0 | 1.5 | 0.0 | 2.0 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.14 | 0.60 | | 0.37 | 1.00 | | 0.98 |
| Lane Grp Cap(c), veh/h | 157 | 1201 | 1238 | 50 | 1093 | 1119 | 193 | 0 | 0 | 257 | 0 | 129 |
| V/C Ratio(X) | 0.76 | 0.52 | 0.52 | 0.65 | 0.42 | 0.42 | 0.22 | 0.00 | 0.00 | 0.19 | 0.00 | 0.46 |
| Avail Cap(c_a), veh/h | 595 | 2001 | 2063 | 282 | 1688 | 1727 | 454 | 0 | 0 | 509 | 0 | 421 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.2 | 4.5 | 4.5 | 27.2 | 5.6 | 5.6 | 24.9 | 0.0 | 0.0 | 24.6 | 0.0 | 24.8 |
| Incr Delay (d2), s/veh | 7.2 | 0.3 | 0.3 | 13.2 | 0.3 | 0.3 | 0.6 | 0.0 | 0.0 | 0.4 | 0.0 | 2.5 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.1 | 4.8 | 4.9 | 0.7 | 3.8 | 3.9 | 0.7 | 0.0 | 0.0 | 0.7 | 0.0 | 1.0 |
| LnGrp Delay(d),s/veh | 32.4 | 4.9 | 4.8 | 40.4 | 5.9 | 5.9 | 25.5 | 0.0 | 0.0 | 24.9 | 0.0 | 27.3 |
| LnGrp LOS | C | A | A | D | A | A | C | | | C | | C |
| Approach Vol, veh/h | | 1382 | | | 970 | | | 43 | | | 108 | |
| Approach Delay, s/veh | | 7.2 | | | 7.0 | | | 25.5 | | | 26.2 | |
| Approach LOS | | A | | | A | | | C | | | C | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 8.6 | 5.6 | 42.4 | | 8.6 | 9.0 | 39.0 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 15.0 | 9.0 | 64.0 | | 15.0 | 19.0 | 54.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 4.7 | 3.0 | 11.9 | | 4.0 | 5.7 | 9.7 | | | | |
| Green Ext Time (p_c), s | | 0.4 | 0.0 | 26.5 | | 0.5 | 0.2 | 24.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 8.3 | | | | | | | | | |
| HCM 2010 LOS | | | A | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM Signalized Intersection Capacity Analysis

Construction Year + Project
 PM Peak Hour

| Movement | EBU | EBL | EBT | EBR | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBL |
|------------------------|------|------|-------|------|-------|------|------|------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 5 | 79 | 949 | 131 | 447 | 710 | 15 | 7 | 140 | 218 | 880 | 14 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | | | 1.00 | 0.91 | 1.00 | 1.00 |
| Frb, ped/bikes | | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 1.00 | 0.85 | 1.00 | 1.00 | | | 1.00 | 1.00 | 0.85 | 1.00 |
| Flt Protected | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 |
| Satd. Flow (prot) | | 3433 | 3539 | 1563 | 3433 | 3527 | | | 1770 | 5085 | 1583 | 1770 |
| Flt Permitted | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 |
| Satd. Flow (perm) | | 3433 | 3539 | 1563 | 3433 | 3527 | | | 1770 | 5085 | 1583 | 1770 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 5 | 86 | 1032 | 142 | 486 | 772 | 16 | 8 | 152 | 237 | 957 | 15 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 91 | 1032 | 142 | 486 | 787 | 0 | 0 | 160 | 237 | 957 | 15 |
| Confl. Peds. (#/hr) | | | | | | | 5 | | | | | |
| Confl. Bikes (#/hr) | | | | 5 | | | | | | | | |
| Turn Type | Prot | Prot | NA | Free | Prot | NA | | Prot | Prot | NA | Free | Prot |
| Protected Phases | 7 | 7 | 4 | | 3 | 8 | | 5 | 5 | 2 | | 1 |
| Permitted Phases | | | | Free | | | | | | | Free | |
| Actuated Green, G (s) | | 3.1 | 33.6 | 88.7 | 14.3 | 44.8 | | | 12.6 | 23.4 | 88.7 | 1.4 |
| Effective Green, g (s) | | 3.1 | 33.6 | 88.7 | 14.3 | 44.8 | | | 12.6 | 23.4 | 88.7 | 1.4 |
| Actuated g/C Ratio | | 0.03 | 0.38 | 1.00 | 0.16 | 0.51 | | | 0.14 | 0.26 | 1.00 | 0.02 |
| Clearance Time (s) | | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 | | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | | 119 | 1340 | 1563 | 553 | 1781 | | | 251 | 1341 | 1583 | 27 |
| v/s Ratio Prot | | 0.03 | c0.29 | | c0.14 | 0.22 | | | 0.09 | 0.05 | | 0.01 |
| v/s Ratio Perm | | | | 0.09 | | | | | | | c0.60 | |
| v/c Ratio | | 0.76 | 0.77 | 0.09 | 0.88 | 0.44 | | | 0.64 | 0.18 | 0.60 | 0.56 |
| Uniform Delay, d1 | | 42.4 | 24.2 | 0.0 | 36.4 | 14.0 | | | 35.9 | 25.2 | 0.0 | 43.3 |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 24.8 | 2.8 | 0.1 | 14.7 | 0.2 | | | 5.2 | 0.1 | 1.7 | 22.5 |
| Delay (s) | | 67.3 | 27.0 | 0.1 | 51.1 | 14.2 | | | 41.1 | 25.3 | 1.7 | 65.8 |
| Level of Service | | E | C | A | D | B | | | D | C | A | E |
| Approach Delay (s) | | | 26.8 | | | 28.2 | | | | 10.5 | | |
| Approach LOS | | | C | | | C | | | | B | | |

| Intersection Summary | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 22.3 | HCM 2000 Level of Service | C |
| HCM 2000 Volume to Capacity ratio | 0.80 | | |
| Actuated Cycle Length (s) | 88.7 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 64.7% | ICU Level of Service | C |
| Analysis Period (min) | 15 | | |
| c Critical Lane Group | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM Signalized Intersection Capacity Analysis

Construction Year + Project
 PM Peak Hour



| Movement | SBT | SBR |
|-----------------------------|------|------|
| Lane Configurations | ↑↑ | |
| Volume (vph) | 107 | 39 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 4.0 | |
| Lane Util. Factor | 0.95 | |
| Frbp, ped/bikes | 0.99 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.96 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 3380 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 3380 | |
| Peak-hour factor, PHF | 0.92 | 0.92 |
| Adj. Flow (vph) | 116 | 42 |
| RTOR Reduction (vph) | 0 | 0 |
| Lane Group Flow (vph) | 158 | 0 |
| Confl. Peds. (#/hr) | | |
| Confl. Bikes (#/hr) | | 5 |
| Turn Type | NA | |
| Protected Phases | 6 | |
| Permitted Phases | | |
| Actuated Green, G (s) | 12.2 | |
| Effective Green, g (s) | 12.2 | |
| Actuated g/C Ratio | 0.14 | |
| Clearance Time (s) | 4.0 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 464 | |
| v/s Ratio Prot | 0.05 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.34 | |
| Uniform Delay, d1 | 34.6 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 0.4 | |
| Delay (s) | 35.1 | |
| Level of Service | D | |
| Approach Delay (s) | 37.7 | |
| Approach LOS | D | |
| Intersection Summary | | |

11: Parkway Dr./Jorgensen Rd. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Construction Year + Project
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 29 | 1412 | 277 | 42 | 948 | 11 | 142 | 3 | 29 | 6 | 1 | 20 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 32 | 1535 | 301 | 46 | 1030 | 12 | 154 | 3 | 32 | 7 | 1 | 22 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 44 | 1866 | 355 | 58 | 2264 | 1013 | 186 | 4 | 39 | 42 | 2 | 36 |
| Arrive On Green | 0.02 | 0.63 | 0.63 | 0.03 | 0.64 | 0.64 | 0.13 | 0.13 | 0.13 | 0.02 | 0.02 | 0.02 |
| Sat Flow, veh/h | 1774 | 2955 | 563 | 1774 | 3539 | 1583 | 1418 | 28 | 295 | 1774 | 69 | 1524 |
| Grp Volume(v), veh/h | 32 | 901 | 935 | 46 | 1030 | 12 | 189 | 0 | 0 | 7 | 0 | 23 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1748 | 1774 | 1770 | 1583 | 1740 | 0 | 0 | 1774 | 0 | 1594 |
| Q Serve(g_s), s | 1.6 | 33.8 | 37.6 | 2.3 | 13.1 | 0.2 | 9.4 | 0.0 | 0.0 | 0.3 | 0.0 | 1.3 |
| Cycle Q Clear(g_c), s | 1.6 | 33.8 | 37.6 | 2.3 | 13.1 | 0.2 | 9.4 | 0.0 | 0.0 | 0.3 | 0.0 | 1.3 |
| Prop In Lane | 1.00 | | 0.32 | 1.00 | | 1.00 | 0.81 | | 0.17 | 1.00 | | 0.96 |
| Lane Grp Cap(c), veh/h | 44 | 1118 | 1104 | 58 | 2264 | 1013 | 229 | 0 | 0 | 42 | 0 | 38 |
| V/C Ratio(X) | 0.73 | 0.81 | 0.85 | 0.79 | 0.45 | 0.01 | 0.83 | 0.00 | 0.00 | 0.17 | 0.00 | 0.61 |
| Avail Cap(c_a), veh/h | 120 | 1158 | 1144 | 80 | 2264 | 1013 | 314 | 0 | 0 | 120 | 0 | 108 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 42.9 | 12.2 | 12.9 | 42.6 | 8.1 | 5.8 | 37.5 | 0.0 | 0.0 | 42.4 | 0.0 | 42.9 |
| Incr Delay (d2), s/veh | 20.8 | 4.2 | 5.9 | 29.8 | 0.1 | 0.0 | 12.1 | 0.0 | 0.0 | 1.9 | 0.0 | 15.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.0 | 17.6 | 19.7 | 1.6 | 6.3 | 0.1 | 5.3 | 0.0 | 0.0 | 0.2 | 0.0 | 0.7 |
| LnGrp Delay(d),s/veh | 63.8 | 16.4 | 18.9 | 72.3 | 8.3 | 5.8 | 49.6 | 0.0 | 0.0 | 44.3 | 0.0 | 57.9 |
| LnGrp LOS | E | B | B | E | A | A | D | | | D | | E |
| Approach Vol, veh/h | 1868 | | | 1088 | | | 189 | | | 30 | | |
| Approach Delay, s/veh | 18.4 | | | 10.9 | | | 49.6 | | | 54.7 | | |
| Approach LOS | B | | | B | | | D | | | D | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 15.7 | 6.9 | 60.0 | | 6.1 | 6.2 | 60.7 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 16.0 | 4.0 | 58.0 | | 6.0 | 6.0 | 56.0 | | | | |
| Max Q Clear Time (g_c+l1), s | | 11.4 | 4.3 | 39.6 | | 3.3 | 3.6 | 15.1 | | | | |
| Green Ext Time (p_c), s | | 0.4 | 0.0 | 16.4 | | 0.0 | 0.0 | 33.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | 18.1 | | | | | | | | | | | |
| HCM 2010 LOS | B | | | | | | | | | | | |

14: Oak Avenue Pkwy. & Creekside Dr./N. Lexington Dr.
 HCM 2010 Signalized Intersection Summary

Construction Year + Project
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 159 | 58 | 63 | 43 | 25 | 71 | 66 | 1014 | 84 | 75 | 554 | 50 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1900 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 169 | 62 | 67 | 46 | 27 | 76 | 70 | 1079 | 89 | 80 | 589 | 53 |
| Adj No. of Lanes | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 3 | 0 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 231 | 85 | 273 | 89 | 52 | 120 | 90 | 2035 | 168 | 103 | 2056 | 183 |
| Arrive On Green | 0.18 | 0.18 | 0.18 | 0.08 | 0.08 | 0.08 | 0.05 | 0.43 | 0.43 | 0.06 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1315 | 482 | 1554 | 1138 | 668 | 1542 | 1774 | 4778 | 394 | 1774 | 4741 | 422 |
| Grp Volume(v), veh/h | 231 | 0 | 67 | 73 | 0 | 76 | 70 | 765 | 403 | 80 | 419 | 223 |
| Grp Sat Flow(s),veh/h/ln | 1797 | 0 | 1554 | 1806 | 0 | 1542 | 1774 | 1695 | 1782 | 1774 | 1695 | 1773 |
| Q Serve(g_s), s | 7.4 | 0.0 | 2.3 | 2.4 | 0.0 | 2.9 | 2.4 | 10.2 | 10.2 | 2.7 | 4.9 | 5.0 |
| Cycle Q Clear(g_c), s | 7.4 | 0.0 | 2.3 | 2.4 | 0.0 | 2.9 | 2.4 | 10.2 | 10.2 | 2.7 | 4.9 | 5.0 |
| Prop In Lane | 0.73 | | 1.00 | 0.63 | | 1.00 | 1.00 | | 0.22 | 1.00 | | 0.24 |
| Lane Grp Cap(c), veh/h | 315 | 0 | 273 | 141 | 0 | 120 | 90 | 1444 | 759 | 103 | 1470 | 769 |
| V/C Ratio(X) | 0.73 | 0.00 | 0.25 | 0.52 | 0.00 | 0.63 | 0.78 | 0.53 | 0.53 | 0.77 | 0.29 | 0.29 |
| Avail Cap(c_a), veh/h | 736 | 0 | 637 | 326 | 0 | 278 | 320 | 2000 | 1051 | 349 | 2056 | 1075 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.8 | 0.0 | 21.7 | 27.0 | 0.0 | 27.3 | 28.6 | 13.0 | 13.0 | 28.3 | 11.2 | 11.2 |
| Incr Delay (d2), s/veh | 3.3 | 0.0 | 0.5 | 2.9 | 0.0 | 5.4 | 13.5 | 0.3 | 0.6 | 11.5 | 0.1 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.9 | 0.0 | 1.0 | 1.3 | 0.0 | 1.4 | 1.5 | 4.8 | 5.2 | 1.7 | 2.3 | 2.5 |
| LnGrp Delay(d),s/veh | 27.1 | 0.0 | 22.1 | 29.9 | 0.0 | 32.6 | 42.2 | 13.3 | 13.6 | 39.8 | 11.3 | 11.4 |
| LnGrp LOS | C | | C | C | | C | D | B | B | D | B | B |
| Approach Vol, veh/h | | 298 | | | 149 | | | 1238 | | | 722 | |
| Approach Delay, s/veh | | 26.0 | | | 31.3 | | | 15.0 | | | 14.5 | |
| Approach LOS | | C | | | C | | | B | | | B | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 7.6 | 30.0 | | 14.7 | 7.1 | 30.5 | | 8.8 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 12.0 | 36.0 | | 25.0 | 11.0 | 37.0 | | 11.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.7 | 12.2 | | 9.4 | 4.4 | 7.0 | | 4.9 | | | | |
| Green Ext Time (p_c), s | 0.1 | 13.7 | | 1.4 | 0.1 | 15.7 | | 0.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 17.2 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

Intersection

Int Delay, s/veh 0.1

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 1152 | 9 | 0 | 889 | 0 | 12 |
| Conflicting Peds, #/hr | 0 | 5 | 0 | 0 | 0 | 5 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1252 | 10 | 0 | 966 | 0 | 13 |

| Major/Minor | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 1267 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | - | - | 4.14 |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | - | - | 2.22 |
| Pot Cap-1 Maneuver | - | - | 544 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | - | - | 544 |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|----|------|
| HCM Control Delay, s | 0 | 0 | 13.9 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-----|-----|
| Capacity (veh/h) | 419 | - | - | 544 | - |
| HCM Lane V/C Ratio | 0.031 | - | - | - | - |
| HCM Control Delay (s) | 13.9 | - | - | 0 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0 | - |

Intersection

Int Delay, s/veh 0

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 4 | 0 | 1244 | 673 | 20 |
| Conflicting Peds, #/hr | 0 | 5 | 0 | 0 | 0 | 5 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 4 | 0 | 1352 | 732 | 22 |

| Major/Minor | Minor2 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 1288 | 382 | 758 0 |
| Stage 1 | 747 | - | - - |
| Stage 2 | 541 | - | - - |
| Critical Hdwy | 5.74 | 7.14 | 5.34 - |
| Critical Hdwy Stg 1 | 6.64 | - | - - |
| Critical Hdwy Stg 2 | 6.04 | - | - - |
| Follow-up Hdwy | 3.82 | 3.92 | 3.12 - |
| Pot Cap-1 Maneuver | 222 | 526 | 511 - |
| Stage 1 | 344 | - | - - |
| Stage 2 | 500 | - | - - |
| Platoon blocked, % | | | - - |
| Mov Cap-1 Maneuver | 220 | 524 | 511 - |
| Mov Cap-2 Maneuver | 220 | - | - - |
| Stage 1 | 343 | - | - - |
| Stage 2 | 498 | - | - - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 11.9 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-----|-----|-------|-----|-----|
| Capacity (veh/h) | 511 | - | 524 | - | - |
| HCM Lane V/C Ratio | - | - | 0.008 | - | - |
| HCM Control Delay (s) | 0 | - | 11.9 | - | - |
| HCM Lane LOS | A | - | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

APPENDIX E

**CUMULATIVE NO PROJECT CONDITIONS
LEVEL OF SERVICE CALCULATION WORKSHEETS**

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 16.4 |
| Intersection LOS | C |

| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBU | NBL | NBR |
|-------------------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 40 | 60 | 0 | 330 | 120 | 0 | 110 | 150 |
| Peak Hour Factor | 0.92 | 0.85 | 0.85 | 0.92 | 0.85 | 0.85 | 0.92 | 0.85 | 0.85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 47 | 71 | 0 | 388 | 141 | 0 | 129 | 176 |
| Number of Lanes | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |

| Approach | EB | WB | NB |
|----------------------------|-----|------|------|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 1 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 2 | 1 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 2 | 0 | 1 |
| HCM Control Delay | 9.3 | 21.2 | 10.9 |
| HCM LOS | A | C | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 73% |
| Vol Thru, % | 0% | 0% | 40% | 27% |
| Vol Right, % | 0% | 100% | 60% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 110 | 150 | 100 | 450 |
| LT Vol | 110 | 0 | 0 | 330 |
| Through Vol | 0 | 0 | 40 | 120 |
| RT Vol | 0 | 150 | 60 | 0 |
| Lane Flow Rate | 129 | 176 | 118 | 529 |
| Geometry Grp | 7 | 7 | 2 | 2 |
| Degree of Util (X) | 0.242 | 0.27 | 0.17 | 0.739 |
| Departure Headway (Hd) | 6.734 | 5.517 | 5.187 | 5.028 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 536 | 655 | 694 | 709 |
| Service Time | 4.44 | 3.223 | 3.204 | 3.128 |
| HCM Lane V/C Ratio | 0.241 | 0.269 | 0.17 | 0.746 |
| HCM Control Delay | 11.6 | 10.3 | 9.3 | 21.2 |
| HCM Lane LOS | B | B | A | C |
| HCM 95th-tile Q | 0.9 | 1.1 | 0.6 | 6.6 |

8: Flower Dr. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Cumulative No Project
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 60 | 800 | 10 | 20 | 1760 | 70 | 50 | 20 | 40 | 150 | 10 | 240 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 67 | 889 | 11 | 22 | 1956 | 78 | 56 | 22 | 44 | 167 | 11 | 267 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 86 | 2342 | 29 | 33 | 2163 | 86 | 75 | 35 | 32 | 255 | 13 | 311 |
| Arrive On Green | 0.05 | 0.65 | 0.65 | 0.02 | 0.62 | 0.62 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1774 | 3580 | 44 | 1774 | 3465 | 137 | 106 | 173 | 157 | 1330 | 63 | 1519 |
| Grp Volume(v), veh/h | 67 | 439 | 461 | 22 | 991 | 1043 | 122 | 0 | 0 | 167 | 0 | 278 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1855 | 1774 | 1770 | 1833 | 436 | 0 | 0 | 1330 | 0 | 1582 |
| Q Serve(g_s), s | 3.6 | 11.2 | 11.2 | 1.2 | 46.7 | 48.5 | 3.4 | 0.0 | 0.0 | 0.0 | 0.0 | 16.6 |
| Cycle Q Clear(g_c), s | 3.6 | 11.2 | 11.2 | 1.2 | 46.7 | 48.5 | 20.0 | 0.0 | 0.0 | 18.1 | 0.0 | 16.6 |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.07 | 0.46 | | 0.36 | 1.00 | | 0.96 |
| Lane Grp Cap(c), veh/h | 86 | 1158 | 1213 | 33 | 1104 | 1144 | 143 | 0 | 0 | 255 | 0 | 324 |
| V/C Ratio(X) | 0.78 | 0.38 | 0.38 | 0.67 | 0.90 | 0.91 | 0.85 | 0.00 | 0.00 | 0.66 | 0.00 | 0.86 |
| Avail Cap(c_a), veh/h | 109 | 1158 | 1213 | 91 | 1123 | 1163 | 143 | 0 | 0 | 255 | 0 | 324 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.0 | 7.8 | 7.8 | 47.7 | 15.7 | 16.0 | 41.7 | 0.0 | 0.0 | 38.1 | 0.0 | 37.5 |
| Incr Delay (d2), s/veh | 23.7 | 0.2 | 0.2 | 21.5 | 9.6 | 10.7 | 36.4 | 0.0 | 0.0 | 6.0 | 0.0 | 20.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 5.4 | 5.7 | 0.8 | 25.5 | 27.8 | 4.7 | 0.0 | 0.0 | 4.8 | 0.0 | 9.1 |
| LnGrp Delay(d),s/veh | 69.6 | 8.0 | 8.0 | 69.1 | 25.3 | 26.8 | 78.1 | 0.0 | 0.0 | 44.1 | 0.0 | 57.5 |
| LnGrp LOS | E | A | A | E | C | C | E | | | D | | E |
| Approach Vol, veh/h | | 967 | | | 2056 | | | 122 | | | 445 | |
| Approach Delay, s/veh | | 12.2 | | | 26.5 | | | 78.1 | | | 52.5 | |
| Approach LOS | | B | | | C | | | E | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 24.0 | 5.8 | 67.9 | | 24.0 | 8.7 | 65.0 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax),s | | 20.0 | 5.0 | 63.0 | | 20.0 | 6.0 | 62.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 22.0 | 3.2 | 13.2 | | 20.1 | 5.6 | 50.5 | | | | |
| Green Ext Time (p_c), s | | 0.0 | 0.0 | 40.4 | | 0.0 | 0.0 | 10.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 27.6 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM Signalized Intersection Capacity Analysis

Cumulative No Project
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------------|------|------|-------|---------------------------|-------|------|-------|------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 80 | 580 | 360 | 890 | 1400 | 60 | 290 | 150 | 420 | 40 | 260 | 130 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.91 | 1.00 | 1.00 | 0.95 | |
| Frb, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 0.99 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.95 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3433 | 3539 | 1562 | 3433 | 3514 | | 1770 | 5085 | 1560 | 1770 | 3328 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3433 | 3539 | 1562 | 3433 | 3514 | | 1770 | 5085 | 1560 | 1770 | 3328 | |
| Peak-hour factor, PHF | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 84 | 611 | 379 | 937 | 1474 | 63 | 305 | 158 | 442 | 42 | 274 | 137 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 61 | 0 |
| Lane Group Flow (vph) | 84 | 611 | 379 | 937 | 1534 | 0 | 305 | 158 | 442 | 42 | 350 | 0 |
| Confl. Peds. (#/hr) | | | 5 | | | 5 | | | 5 | | | 5 |
| Confl. Bikes (#/hr) | | | | | | 20 | | | 5 | | | 5 |
| Turn Type | Prot | NA | Free | Prot | NA | | Prot | NA | Free | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | | | | Free | | | |
| Actuated Green, G (s) | 3.1 | 20.2 | 98.5 | 29.2 | 46.3 | | 19.4 | 29.6 | 98.5 | 3.5 | 13.7 | |
| Effective Green, g (s) | 3.1 | 20.2 | 98.5 | 29.2 | 46.3 | | 19.4 | 29.6 | 98.5 | 3.5 | 13.7 | |
| Actuated g/C Ratio | 0.03 | 0.21 | 1.00 | 0.30 | 0.47 | | 0.20 | 0.30 | 1.00 | 0.04 | 0.14 | |
| Clearance Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 108 | 725 | 1562 | 1017 | 1651 | | 348 | 1528 | 1560 | 62 | 462 | |
| v/s Ratio Prot | 0.02 | 0.17 | | c0.27 | c0.44 | | c0.17 | 0.03 | | 0.02 | c0.11 | |
| v/s Ratio Perm | | | 0.24 | | | | | | 0.28 | | | |
| v/c Ratio | 0.78 | 0.84 | 0.24 | 0.92 | 0.93 | | 0.88 | 0.10 | 0.28 | 0.68 | 0.76 | |
| Uniform Delay, d1 | 47.4 | 37.6 | 0.0 | 33.5 | 24.6 | | 38.4 | 24.9 | 0.0 | 46.9 | 40.8 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 28.9 | 8.8 | 0.4 | 13.2 | 9.6 | | 21.1 | 0.0 | 0.5 | 25.5 | 7.0 | |
| Delay (s) | 76.2 | 46.4 | 0.4 | 46.7 | 34.1 | | 59.5 | 24.9 | 0.5 | 72.5 | 47.8 | |
| Level of Service | E | D | A | D | C | | E | C | A | E | D | |
| Approach Delay (s) | | 32.5 | | | 38.9 | | | 24.6 | | | 50.1 | |
| Approach LOS | | C | | | D | | | C | | | D | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 35.9 | HCM 2000 Level of Service | | | | D | | | | |
| HCM 2000 Volume to Capacity ratio | | | 0.91 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 98.5 | Sum of lost time (s) | | | | 16.0 | | | | |
| Intersection Capacity Utilization | | | 84.9% | ICU Level of Service | | | | E | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

11: Parkway Dr./Jorgensen Rd. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Cumulative No Project
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 10 | 840 | 150 | 40 | 1920 | 10 | 310 | 5 | 40 | 5 | 5 | 40 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pBT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 11 | 884 | 158 | 42 | 2021 | 11 | 326 | 5 | 42 | 5 | 5 | 42 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 1713 | 306 | 53 | 2090 | 931 | 293 | 4 | 38 | 66 | 6 | 54 |
| Arrive On Green | 0.01 | 0.57 | 0.57 | 0.03 | 0.59 | 0.59 | 0.19 | 0.19 | 0.19 | 0.04 | 0.04 | 0.04 |
| Sat Flow, veh/h | 1774 | 2999 | 536 | 1774 | 3539 | 1577 | 1531 | 23 | 197 | 1774 | 171 | 1438 |
| Grp Volume(v), veh/h | 11 | 522 | 520 | 42 | 2021 | 11 | 373 | 0 | 0 | 5 | 0 | 47 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1765 | 1774 | 1770 | 1577 | 1751 | 0 | 0 | 1774 | 0 | 1609 |
| Q Serve(g_s), s | 0.6 | 16.9 | 16.9 | 2.2 | 51.3 | 0.3 | 18.0 | 0.0 | 0.0 | 0.3 | 0.0 | 2.7 |
| Cycle Q Clear(g_c), s | 0.6 | 16.9 | 16.9 | 2.2 | 51.3 | 0.3 | 18.0 | 0.0 | 0.0 | 0.3 | 0.0 | 2.7 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 0.87 | | 0.11 | 1.00 | | 0.89 |
| Lane Grp Cap(c), veh/h | 19 | 1011 | 1009 | 53 | 2090 | 931 | 335 | 0 | 0 | 66 | 0 | 60 |
| V/C Ratio(X) | 0.58 | 0.52 | 0.52 | 0.79 | 0.97 | 0.01 | 1.11 | 0.00 | 0.00 | 0.08 | 0.00 | 0.78 |
| Avail Cap(c_a), veh/h | 75 | 1011 | 1009 | 132 | 2106 | 938 | 335 | 0 | 0 | 113 | 0 | 103 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.3 | 12.3 | 12.3 | 45.4 | 18.4 | 7.9 | 38.1 | 0.0 | 0.0 | 43.7 | 0.0 | 44.9 |
| Incr Delay (d2), s/veh | 25.5 | 0.5 | 0.5 | 22.4 | 12.7 | 0.0 | 83.3 | 0.0 | 0.0 | 0.5 | 0.0 | 19.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 8.2 | 8.2 | 1.4 | 28.4 | 0.1 | 16.4 | 0.0 | 0.0 | 0.1 | 0.0 | 1.5 |
| LnGrp Delay(d),s/veh | 71.8 | 12.7 | 12.7 | 67.8 | 31.1 | 7.9 | 121.4 | 0.0 | 0.0 | 44.2 | 0.0 | 64.1 |
| LnGrp LOS | E | B | B | E | C | A | F | | | D | | E |
| Approach Vol, veh/h | 1053 | | | 2074 | | | 373 | | | 52 | | |
| Approach Delay, s/veh | 13.3 | | | 31.7 | | | 121.4 | | | 62.2 | | |
| Approach LOS | B | | | C | | | F | | | E | | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 22.0 | 6.8 | 57.8 | | 7.5 | 5.0 | 59.6 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 18.0 | 7.0 | 53.0 | | 6.0 | 4.0 | 56.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 20.0 | 4.2 | 18.9 | | 4.7 | 2.6 | 53.3 | | | | |
| Green Ext Time (p_c), s | | 0.0 | 0.0 | 30.2 | | 0.0 | 0.0 | 2.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | 36.1 | | | | | | | | | | | |
| HCM 2010 LOS | D | | | | | | | | | | | |

14: Oak Avenue Pkwy. & Creekside Dr./N. Lexington Dr.
 HCM 2010 Signalized Intersection Summary

Cumulative No Project
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 70 | 50 | 130 | 120 | 100 | 210 | 100 | 610 | 70 | 140 | 1240 | 240 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1900 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 74 | 53 | 137 | 126 | 105 | 221 | 105 | 642 | 74 | 147 | 1305 | 253 |
| Adj No. of Lanes | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 3 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 124 | 89 | 184 | 172 | 144 | 268 | 136 | 1866 | 213 | 182 | 1836 | 356 |
| Arrive On Green | 0.12 | 0.12 | 0.12 | 0.17 | 0.17 | 0.17 | 0.08 | 0.40 | 0.40 | 0.10 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1055 | 755 | 1563 | 989 | 824 | 1541 | 1774 | 4628 | 528 | 1774 | 4278 | 829 |
| Grp Volume(v), veh/h | 127 | 0 | 137 | 231 | 0 | 221 | 105 | 469 | 247 | 147 | 1034 | 524 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 0 | 1563 | 1813 | 0 | 1541 | 1774 | 1695 | 1766 | 1774 | 1695 | 1716 |
| Q Serve(g_s), s | 5.3 | 0.0 | 6.7 | 9.5 | 0.0 | 10.9 | 4.6 | 7.6 | 7.7 | 6.4 | 19.8 | 19.8 |
| Cycle Q Clear(g_c), s | 5.3 | 0.0 | 6.7 | 9.5 | 0.0 | 10.9 | 4.6 | 7.6 | 7.7 | 6.4 | 19.8 | 19.8 |
| Prop In Lane | 0.58 | | 1.00 | 0.55 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 0.48 |
| Lane Grp Cap(c), veh/h | 213 | 0 | 184 | 316 | 0 | 268 | 136 | 1367 | 712 | 182 | 1455 | 737 |
| V/C Ratio(X) | 0.60 | 0.00 | 0.74 | 0.73 | 0.00 | 0.82 | 0.77 | 0.34 | 0.35 | 0.81 | 0.71 | 0.71 |
| Avail Cap(c_a), veh/h | 366 | 0 | 316 | 390 | 0 | 331 | 314 | 1800 | 937 | 202 | 1586 | 803 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.1 | 0.0 | 33.7 | 30.9 | 0.0 | 31.5 | 35.9 | 16.3 | 16.4 | 34.7 | 18.5 | 18.5 |
| Incr Delay (d2), s/veh | 2.6 | 0.0 | 5.8 | 5.4 | 0.0 | 12.9 | 9.0 | 0.1 | 0.3 | 19.6 | 1.4 | 2.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.8 | 0.0 | 3.2 | 5.2 | 0.0 | 5.6 | 2.6 | 3.5 | 3.8 | 4.1 | 9.5 | 9.9 |
| LnGrp Delay(d),s/veh | 35.7 | 0.0 | 39.6 | 36.3 | 0.0 | 44.4 | 44.9 | 16.5 | 16.7 | 54.4 | 19.9 | 21.2 |
| LnGrp LOS | D | | D | D | | D | D | B | B | D | B | C |
| Approach Vol, veh/h | | 264 | | | 452 | | | 821 | | | 1705 | |
| Approach Delay, s/veh | | 37.7 | | | 40.2 | | | 20.2 | | | 23.3 | |
| Approach LOS | | D | | | D | | | C | | | C | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 12.1 | 35.9 | | 13.3 | 10.1 | 38.0 | | 17.8 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 9.0 | 42.0 | | 16.0 | 14.0 | 37.0 | | 17.0 | | | | |
| Max Q Clear Time (g_c+1), s | 8.4 | 9.7 | | 8.7 | 6.6 | 21.8 | | 12.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 21.6 | | 0.6 | 0.1 | 12.1 | | 0.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 26.0 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |

| Intersection | |
|---------------------------|-----|
| Intersection Delay, s/veh | 9.9 |
| Intersection LOS | A |

| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBU | NBL | NBR |
|-------------------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 20 | 30 | 0 | 120 | 20 | 0 | 100 | 310 |
| Peak Hour Factor | 0.92 | 0.88 | 0.88 | 0.92 | 0.88 | 0.88 | 0.92 | 0.88 | 0.88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 23 | 34 | 0 | 136 | 23 | 0 | 114 | 352 |
| Number of Lanes | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |

| Approach | EB | WB | NB |
|----------------------------|-----|-----|------|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 1 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 2 | 1 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 2 | 0 | 1 |
| HCM Control Delay | 8.2 | 9.8 | 10.2 |
| HCM LOS | A | A | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 86% |
| Vol Thru, % | 0% | 0% | 40% | 14% |
| Vol Right, % | 0% | 100% | 60% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 100 | 310 | 50 | 140 |
| LT Vol | 100 | 0 | 0 | 120 |
| Through Vol | 0 | 0 | 20 | 20 |
| RT Vol | 0 | 310 | 30 | 0 |
| Lane Flow Rate | 114 | 352 | 57 | 159 |
| Geometry Grp | 7 | 7 | 2 | 2 |
| Degree of Util (X) | 0.176 | 0.429 | 0.076 | 0.229 |
| Departure Headway (Hd) | 5.589 | 4.384 | 4.798 | 5.178 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 642 | 821 | 744 | 692 |
| Service Time | 3.323 | 2.117 | 2.847 | 3.22 |
| HCM Lane V/C Ratio | 0.178 | 0.429 | 0.077 | 0.23 |
| HCM Control Delay | 9.5 | 10.4 | 8.2 | 9.8 |
| HCM Lane LOS | A | B | A | A |
| HCM 95th-tile Q | 0.6 | 2.2 | 0.2 | 0.9 |

8: Flower Dr. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Cumulative No Project
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 160 | 1600 | 90 | 40 | 1130 | 90 | 40 | 0 | 20 | 70 | 0 | 80 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.97 | 1.00 | | 0.99 | 0.99 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 176 | 1758 | 99 | 44 | 1242 | 99 | 44 | 0 | 22 | 77 | 0 | 88 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 215 | 2451 | 137 | 55 | 2089 | 166 | 123 | 13 | 34 | 236 | 0 | 177 |
| Arrive On Green | 0.12 | 0.72 | 0.72 | 0.03 | 0.63 | 0.63 | 0.11 | 0.00 | 0.11 | 0.11 | 0.00 | 0.11 |
| Sat Flow, veh/h | 1774 | 3404 | 190 | 1774 | 3314 | 264 | 489 | 119 | 304 | 1373 | 0 | 1583 |
| Grp Volume(v), veh/h | 176 | 906 | 951 | 44 | 662 | 679 | 66 | 0 | 0 | 77 | 0 | 88 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1824 | 1774 | 1770 | 1808 | 912 | 0 | 0 | 1373 | 0 | 1583 |
| Q Serve(g_s), s | 8.5 | 25.8 | 26.7 | 2.2 | 19.4 | 19.5 | 2.8 | 0.0 | 0.0 | 0.0 | 0.0 | 4.6 |
| Cycle Q Clear(g_c), s | 8.5 | 25.8 | 26.7 | 2.2 | 19.4 | 19.5 | 7.4 | 0.0 | 0.0 | 4.6 | 0.0 | 4.6 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.15 | 0.67 | | 0.33 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 215 | 1275 | 1314 | 55 | 1116 | 1140 | 170 | 0 | 0 | 236 | 0 | 177 |
| V/C Ratio(X) | 0.82 | 0.71 | 0.72 | 0.79 | 0.59 | 0.60 | 0.39 | 0.00 | 0.00 | 0.33 | 0.00 | 0.50 |
| Avail Cap(c_a), veh/h | 364 | 1372 | 1414 | 121 | 1130 | 1154 | 236 | 0 | 0 | 301 | 0 | 253 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.6 | 7.0 | 7.2 | 42.2 | 9.6 | 9.6 | 38.5 | 0.0 | 0.0 | 36.7 | 0.0 | 36.6 |
| Incr Delay (d2), s/veh | 7.6 | 1.6 | 1.7 | 21.8 | 0.8 | 0.8 | 1.4 | 0.0 | 0.0 | 0.8 | 0.0 | 2.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.6 | 12.9 | 13.8 | 1.4 | 9.6 | 9.9 | 1.6 | 0.0 | 0.0 | 1.8 | 0.0 | 2.1 |
| LnGrp Delay(d),s/veh | 45.2 | 8.6 | 8.9 | 64.0 | 10.4 | 10.4 | 39.9 | 0.0 | 0.0 | 37.5 | 0.0 | 38.8 |
| LnGrp LOS | D | A | A | E | B | B | D | | | D | | D |
| Approach Vol, veh/h | | 2033 | | | 1385 | | | 66 | | | | 165 |
| Approach Delay, s/veh | | 11.9 | | | 12.1 | | | 39.9 | | | | 38.2 |
| Approach LOS | | B | | | B | | | D | | | | D |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 13.8 | 6.7 | 67.2 | | 13.8 | 14.6 | 59.3 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 14.0 | 6.0 | 68.0 | | 14.0 | 18.0 | 56.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 9.4 | 4.2 | 28.7 | | 6.6 | 10.5 | 21.5 | | | | |
| Green Ext Time (p_c), s | | 0.4 | 0.0 | 34.5 | | 0.6 | 0.3 | 30.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 13.7 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM Signalized Intersection Capacity Analysis

Cumulative No Project
 PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  |  |  |  |  |
| Volume (vph) | 110 | 1400 | 200 | 570 | 1020 | 50 | 210 | 290 | 950 | 70 | 110 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | | 1.00 | 0.91 | 1.00 | 1.00 | 0.95 | |
| Frbp, ped/bikes | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 0.99 | |
| Flpb, ped/bikes | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | 1.00 | 1.00 | 0.85 | 1.00 | 0.95 | |
| Flt Protected | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (prot) | 3433 | 3362 | 1563 | 3433 | 3512 | | 1770 | 5085 | 1583 | 1770 | 3347 | |
| Flt Permitted | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | |
| Satd. Flow (perm) | 3433 | 3362 | 1563 | 3433 | 3512 | | 1770 | 5085 | 1583 | 1770 | 3347 | |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 120 | 1522 | 217 | 620 | 1109 | 54 | 228 | 315 | 1033 | 76 | 120 | 54 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 50 | 0 |
| Lane Group Flow (vph) | 120 | 1522 | 217 | 620 | 1159 | 0 | 228 | 315 | 1033 | 76 | 124 | 0 |
| Confl. Peds. (#/hr) | | | | | | 5 | | | | | | |
| Confl. Bikes (#/hr) | | | 5 | | | | | | | | | 5 |
| Parking (#/hr) | | 0 | | | | | | | | | | |
| Turn Type | Prot | NA | Free | Prot | NA | | Prot | NA | Free | Prot | NA | |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | | | | Free | | | |
| Actuated Green, G (s) | 6.9 | 41.1 | 99.5 | 20.8 | 55.0 | | 14.0 | 13.8 | 99.5 | 7.8 | 7.6 | |
| Effective Green, g (s) | 6.9 | 41.1 | 99.5 | 20.8 | 55.0 | | 14.0 | 13.8 | 99.5 | 7.8 | 7.6 | |
| Actuated g/C Ratio | 0.07 | 0.41 | 1.00 | 0.21 | 0.55 | | 0.14 | 0.14 | 1.00 | 0.08 | 0.08 | |
| Clearance Time (s) | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | | 4.0 | 4.0 | |
| Vehicle Extension (s) | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | | 3.0 | 3.0 | |
| Lane Grp Cap (vph) | 238 | 1388 | 1563 | 717 | 1941 | | 249 | 705 | 1583 | 138 | 255 | |
| v/s Ratio Prot | 0.03 | c0.45 | | c0.18 | 0.33 | | c0.13 | 0.06 | | 0.04 | 0.04 | |
| v/s Ratio Perm | | | 0.14 | | | | | | c0.65 | | | |
| v/c Ratio | 0.50 | 1.10 | 0.14 | 0.86 | 0.60 | | 0.92 | 0.45 | 0.65 | 0.55 | 0.49 | |
| Uniform Delay, d1 | 44.7 | 29.2 | 0.0 | 38.0 | 14.9 | | 42.2 | 39.3 | 0.0 | 44.2 | 44.1 | |
| Progression Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | 1.7 | 55.1 | 0.2 | 10.6 | 0.5 | | 35.0 | 0.5 | 2.1 | 4.7 | 1.5 | |
| Delay (s) | 46.3 | 84.3 | 0.2 | 48.6 | 15.4 | | 77.1 | 39.8 | 2.1 | 48.9 | 45.5 | |
| Level of Service | D | F | A | D | B | | E | D | A | D | D | |
| Approach Delay (s) | | 72.0 | | | 26.9 | | | 20.5 | | | 46.5 | |
| Approach LOS | | E | | | C | | | C | | | D | |

Intersection Summary

| | | | |
|-----------------------------------|-------|---------------------------|------|
| HCM 2000 Control Delay | 41.3 | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | 1.00 | | |
| Actuated Cycle Length (s) | 99.5 | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | 84.6% | ICU Level of Service | E |
| Analysis Period (min) | 15 | | |

c Critical Lane Group

11: Parkway Dr./Jorgensen Rd. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Cumulative No Project
 PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  |  | |  | |  |  | |
| Volume (veh/h) | 40 | 1740 | 310 | 60 | 1290 | 20 | 160 | 0 | 40 | 10 | 0 | 30 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 43 | 1891 | 337 | 65 | 1402 | 22 | 174 | 0 | 43 | 11 | 0 | 33 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 54 | 1986 | 342 | 74 | 2374 | 1062 | 144 | 0 | 36 | 51 | 0 | 46 |
| Arrive On Green | 0.03 | 0.66 | 0.66 | 0.04 | 0.67 | 0.67 | 0.10 | 0.00 | 0.10 | 0.03 | 0.00 | 0.03 |
| Sat Flow, veh/h | 1774 | 3008 | 518 | 1774 | 3539 | 1583 | 1389 | 0 | 343 | 1774 | 0 | 1583 |
| Grp Volume(v), veh/h | 43 | 1085 | 1143 | 65 | 1402 | 22 | 217 | 0 | 0 | 11 | 0 | 33 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1757 | 1774 | 1770 | 1583 | 1733 | 0 | 0 | 1774 | 0 | 1583 |
| Q Serve(g_s), s | 2.3 | 52.0 | 60.9 | 3.5 | 20.8 | 0.4 | 10.0 | 0.0 | 0.0 | 0.6 | 0.0 | 2.0 |
| Cycle Q Clear(g_c), s | 2.3 | 52.0 | 60.9 | 3.5 | 20.8 | 0.4 | 10.0 | 0.0 | 0.0 | 0.6 | 0.0 | 2.0 |
| Prop In Lane | 1.00 | | 0.29 | 1.00 | | 1.00 | 0.80 | | 0.20 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 54 | 1168 | 1160 | 74 | 2374 | 1062 | 180 | 0 | 0 | 51 | 0 | 46 |
| V/C Ratio(X) | 0.79 | 0.93 | 0.99 | 0.88 | 0.59 | 0.02 | 1.21 | 0.00 | 0.00 | 0.22 | 0.00 | 0.72 |
| Avail Cap(c_a), veh/h | 110 | 1175 | 1166 | 74 | 2374 | 1062 | 180 | 0 | 0 | 110 | 0 | 99 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.4 | 14.4 | 15.9 | 46.0 | 8.6 | 5.3 | 43.2 | 0.0 | 0.0 | 45.8 | 0.0 | 46.4 |
| Incr Delay (d2), s/veh | 21.8 | 12.7 | 22.7 | 66.6 | 0.4 | 0.0 | 134.0 | 0.0 | 0.0 | 2.1 | 0.0 | 19.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 29.2 | 36.2 | 3.1 | 10.3 | 0.2 | 11.4 | 0.0 | 0.0 | 0.3 | 0.0 | 1.1 |
| LnGrp Delay(d),s/veh | 68.2 | 27.1 | 38.6 | 112.6 | 9.0 | 5.3 | 177.2 | 0.0 | 0.0 | 47.8 | 0.0 | 65.8 |
| LnGrp LOS | E | C | D | F | A | A | F | | | D | | E |
| Approach Vol, veh/h | | 2271 | | | 1489 | | | 217 | | | | 44 |
| Approach Delay, s/veh | | 33.7 | | | 13.5 | | | 177.2 | | | | 61.3 |
| Approach LOS | | C | | | B | | | F | | | | E |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 14.0 | 8.0 | 67.6 | | 6.8 | 7.0 | 68.7 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 10.0 | 4.0 | 64.0 | | 6.0 | 6.0 | 62.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 12.0 | 5.5 | 62.9 | | 4.0 | 4.3 | 22.8 | | | | |
| Green Ext Time (p_c), s | | 0.0 | 0.0 | 0.7 | | 0.0 | 0.0 | 37.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 34.3 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |

14: Oak Avenue Pkwy. & Creekside Dr./N. Lexington Dr.
 HCM 2010 Signalized Intersection Summary

Cumulative No Project
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 240 | 90 | 100 | 70 | 40 | 110 | 100 | 1100 | 130 | 110 | 700 | 70 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1900 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 255 | 96 | 106 | 74 | 43 | 117 | 106 | 1170 | 138 | 117 | 745 | 74 |
| Adj No. of Lanes | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 3 | 0 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 307 | 115 | 365 | 116 | 67 | 157 | 136 | 1746 | 206 | 149 | 1815 | 179 |
| Arrive On Green | 0.23 | 0.23 | 0.23 | 0.10 | 0.10 | 0.10 | 0.08 | 0.38 | 0.38 | 0.08 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1306 | 492 | 1557 | 1142 | 664 | 1547 | 1774 | 4599 | 542 | 1774 | 4691 | 463 |
| Grp Volume(v), veh/h | 351 | 0 | 106 | 117 | 0 | 117 | 106 | 862 | 446 | 117 | 537 | 282 |
| Grp Sat Flow(s),veh/h/ln | 1797 | 0 | 1557 | 1806 | 0 | 1547 | 1774 | 1695 | 1751 | 1774 | 1695 | 1764 |
| Q Serve(g_s), s | 14.9 | 0.0 | 4.5 | 5.0 | 0.0 | 5.9 | 4.7 | 16.9 | 16.9 | 5.2 | 9.2 | 9.3 |
| Cycle Q Clear(g_c), s | 14.9 | 0.0 | 4.5 | 5.0 | 0.0 | 5.9 | 4.7 | 16.9 | 16.9 | 5.2 | 9.2 | 9.3 |
| Prop In Lane | 0.73 | | 1.00 | 0.63 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.26 |
| Lane Grp Cap(c), veh/h | 422 | 0 | 365 | 183 | 0 | 157 | 136 | 1287 | 665 | 149 | 1312 | 682 |
| V/C Ratio(X) | 0.83 | 0.00 | 0.29 | 0.64 | 0.00 | 0.74 | 0.78 | 0.67 | 0.67 | 0.79 | 0.41 | 0.41 |
| Avail Cap(c_a), veh/h | 629 | 0 | 545 | 248 | 0 | 213 | 266 | 1441 | 744 | 244 | 1398 | 727 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.1 | 0.0 | 25.1 | 34.5 | 0.0 | 34.9 | 36.3 | 20.6 | 20.6 | 35.9 | 17.9 | 17.9 |
| Incr Delay (d2), s/veh | 6.0 | 0.0 | 0.4 | 3.7 | 0.0 | 9.1 | 9.1 | 1.0 | 2.0 | 8.7 | 0.2 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.0 | 0.0 | 2.0 | 2.7 | 0.0 | 2.9 | 2.6 | 8.1 | 8.5 | 2.9 | 4.4 | 4.6 |
| LnGrp Delay(d),s/veh | 35.1 | 0.0 | 25.6 | 38.2 | 0.0 | 44.1 | 45.4 | 21.7 | 22.7 | 44.7 | 18.1 | 18.3 |
| LnGrp LOS | D | | C | D | | D | D | C | C | D | B | B |
| Approach Vol, veh/h | | 457 | | | 234 | | | 1414 | | | 936 | |
| Approach Delay, s/veh | | 32.9 | | | 41.1 | | | 23.8 | | | 21.5 | |
| Approach LOS | | C | | | D | | | C | | | C | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 10.7 | 34.4 | | 22.8 | 10.1 | 35.0 | | 12.1 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 11.0 | 34.0 | | 28.0 | 12.0 | 33.0 | | 11.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.2 | 18.9 | | 16.9 | 6.7 | 11.3 | | 7.9 | | | | |
| Green Ext Time (p_c), s | 0.1 | 11.4 | | 1.9 | 0.1 | 15.1 | | 0.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 25.8 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |

APPENDIX F

**CUMULATIVE PLUS PROJECT CONDITIONS
LEVEL OF SERVICE CALCULATION WORKSHEETS**

Intersection

Intersection Delay, s/veh 16.5
 Intersection LOS C

| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBU | NBL | NBR |
|-------------------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 40 | 60 | 0 | 330 | 120 | 0 | 111 | 151 |
| Peak Hour Factor | 0.92 | 0.85 | 0.85 | 0.92 | 0.85 | 0.85 | 0.92 | 0.85 | 0.85 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 47 | 71 | 0 | 388 | 141 | 0 | 131 | 178 |
| Number of Lanes | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |

Approach

| Approach | EB | WB | NB |
|----------------------------|-----|------|------|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 1 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 2 | 1 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 2 | 0 | 1 |
| HCM Control Delay | 9.3 | 21.3 | 10.9 |
| HCM LOS | A | C | B |

Lane

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 73% |
| Vol Thru, % | 0% | 0% | 40% | 27% |
| Vol Right, % | 0% | 100% | 60% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 111 | 151 | 100 | 450 |
| LT Vol | 111 | 0 | 0 | 330 |
| Through Vol | 0 | 0 | 40 | 120 |
| RT Vol | 0 | 151 | 60 | 0 |
| Lane Flow Rate | 131 | 178 | 118 | 529 |
| Geometry Grp | 7 | 7 | 2 | 2 |
| Degree of Util (X) | 0.244 | 0.272 | 0.17 | 0.74 |
| Departure Headway (Hd) | 6.736 | 5.519 | 5.194 | 5.035 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 535 | 654 | 693 | 709 |
| Service Time | 4.441 | 3.224 | 3.211 | 3.134 |
| HCM Lane V/C Ratio | 0.245 | 0.272 | 0.17 | 0.746 |
| HCM Control Delay | 11.6 | 10.3 | 9.3 | 21.3 |
| HCM Lane LOS | B | B | A | C |
| HCM 95th-tile Q | 1 | 1.1 | 0.6 | 6.6 |

8: Flower Dr. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Cumulative + Project
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 60 | 802 | 10 | 20 | 1767 | 70 | 50 | 20 | 40 | 150 | 10 | 240 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 1.00 | 1.00 | | 0.99 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 67 | 891 | 11 | 22 | 1963 | 78 | 56 | 22 | 44 | 167 | 11 | 267 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 86 | 2342 | 29 | 33 | 2164 | 85 | 75 | 35 | 32 | 255 | 13 | 311 |
| Arrive On Green | 0.05 | 0.65 | 0.65 | 0.02 | 0.62 | 0.62 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 |
| Sat Flow, veh/h | 1774 | 3580 | 44 | 1774 | 3466 | 137 | 105 | 173 | 157 | 1330 | 63 | 1519 |
| Grp Volume(v), veh/h | 67 | 440 | 462 | 22 | 994 | 1047 | 122 | 0 | 0 | 167 | 0 | 278 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1855 | 1774 | 1770 | 1833 | 435 | 0 | 0 | 1330 | 0 | 1582 |
| Q Serve(g_s), s | 3.7 | 11.2 | 11.2 | 1.2 | 47.1 | 48.9 | 3.4 | 0.0 | 0.0 | 0.0 | 0.0 | 16.6 |
| Cycle Q Clear(g_c), s | 3.7 | 11.2 | 11.2 | 1.2 | 47.1 | 48.9 | 20.0 | 0.0 | 0.0 | 18.1 | 0.0 | 16.6 |
| Prop In Lane | 1.00 | | 0.02 | 1.00 | | 0.07 | 0.46 | | 0.36 | 1.00 | | 0.96 |
| Lane Grp Cap(c), veh/h | 86 | 1158 | 1214 | 33 | 1105 | 1144 | 143 | 0 | 0 | 255 | 0 | 324 |
| V/C Ratio(X) | 0.78 | 0.38 | 0.38 | 0.67 | 0.90 | 0.91 | 0.85 | 0.00 | 0.00 | 0.66 | 0.00 | 0.86 |
| Avail Cap(c_a), veh/h | 109 | 1158 | 1214 | 91 | 1122 | 1162 | 143 | 0 | 0 | 255 | 0 | 324 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.0 | 7.8 | 7.8 | 47.7 | 15.8 | 16.1 | 41.7 | 0.0 | 0.0 | 38.1 | 0.0 | 37.5 |
| Incr Delay (d2), s/veh | 23.7 | 0.2 | 0.2 | 21.5 | 9.9 | 11.1 | 36.6 | 0.0 | 0.0 | 6.0 | 0.0 | 20.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.4 | 5.4 | 5.7 | 0.8 | 25.7 | 27.9 | 4.7 | 0.0 | 0.0 | 4.8 | 0.0 | 9.1 |
| LnGrp Delay(d),s/veh | 69.7 | 8.0 | 8.0 | 69.2 | 25.6 | 27.1 | 78.3 | 0.0 | 0.0 | 44.1 | 0.0 | 57.6 |
| LnGrp LOS | E | A | A | E | C | C | E | | | D | | E |
| Approach Vol, veh/h | | 969 | | | 2063 | | | 122 | | | 445 | |
| Approach Delay, s/veh | | 12.2 | | | 26.9 | | | 78.3 | | | 52.5 | |
| Approach LOS | | B | | | C | | | E | | | D | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 24.0 | 5.8 | 68.0 | | 24.0 | 8.7 | 65.0 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 20.0 | 5.0 | 63.0 | | 20.0 | 6.0 | 62.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 22.0 | 3.2 | 13.2 | | 20.1 | 5.7 | 50.9 | | | | |
| Green Ext Time (p_c), s | | 0.0 | 0.0 | 40.5 | | 0.0 | 0.0 | 10.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 27.9 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM Signalized Intersection Capacity Analysis

Cumulative + Project
 AM Peak Hour

| Movement | EBU | EBL | EBT | EBR | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBL | |
|-----------------------------------|------|------|-------|------|-------|-------|------|------|-------|------|------|---------------------------|------|
| Lane Configurations | | | | | | | | | | | | | |
| Volume (vph) | 7 | 82 | 589 | 364 | 892 | 1400 | 60 | 3 | 290 | 150 | 420 | 40 | |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 | |
| Lane Util. Factor | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | | | 1.00 | 0.91 | 1.00 | 1.00 | |
| Frbp, ped/bikes | | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | | 1.00 | 1.00 | 0.99 | 1.00 | |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Frt | | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | | 1.00 | 1.00 | 0.85 | 1.00 | |
| Flt Protected | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (prot) | | 3433 | 3539 | 1562 | 3433 | 3514 | | | 1770 | 5085 | 1560 | 1770 | |
| Flt Permitted | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 | |
| Satd. Flow (perm) | | 3433 | 3539 | 1562 | 3433 | 3514 | | | 1770 | 5085 | 1560 | 1770 | |
| Peak-hour factor, PHF | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.92 | 0.95 | 0.95 | 0.95 | 0.95 | |
| Adj. Flow (vph) | 8 | 86 | 620 | 383 | 939 | 1474 | 63 | 3 | 305 | 158 | 442 | 42 | |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Lane Group Flow (vph) | 0 | 94 | 620 | 383 | 939 | 1534 | 0 | 0 | 308 | 158 | 442 | 42 | |
| Confl. Peds. (#/hr) | | | | 5 | | | 5 | | | | 5 | | |
| Confl. Bikes (#/hr) | | | | | | | 20 | | | | 5 | | |
| Turn Type | Prot | Prot | NA | Free | Prot | NA | | Prot | Prot | NA | Free | Prot | |
| Protected Phases | 7 | 7 | 4 | | 3 | 8 | | 5 | 5 | 2 | | 1 | |
| Permitted Phases | | | | Free | | | | | | | Free | | |
| Actuated Green, G (s) | | 4.0 | 20.5 | 99.4 | 29.6 | 46.1 | | | 19.7 | 29.8 | 99.4 | 3.5 | |
| Effective Green, g (s) | | 4.0 | 20.5 | 99.4 | 29.6 | 46.1 | | | 19.7 | 29.8 | 99.4 | 3.5 | |
| Actuated g/C Ratio | | 0.04 | 0.21 | 1.00 | 0.30 | 0.46 | | | 0.20 | 0.30 | 1.00 | 0.04 | |
| Clearance Time (s) | | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 | | 4.0 | |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 | | | 3.0 | 3.0 | | 3.0 | |
| Lane Grp Cap (vph) | | 138 | 729 | 1562 | 1022 | 1629 | | | 350 | 1524 | 1560 | 62 | |
| v/s Ratio Prot | | 0.03 | 0.18 | | c0.27 | c0.44 | | | c0.17 | 0.03 | | 0.02 | |
| v/s Ratio Perm | | | | 0.25 | | | | | | | 0.28 | | |
| v/c Ratio | | 0.68 | 0.85 | 0.25 | 0.92 | 0.94 | | | 0.88 | 0.10 | 0.28 | 0.68 | |
| Uniform Delay, d1 | | 47.1 | 38.0 | 0.0 | 33.7 | 25.4 | | | 38.7 | 25.1 | 0.0 | 47.4 | |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 | |
| Incremental Delay, d2 | | 13.0 | 9.4 | 0.4 | 12.7 | 11.3 | | | 21.7 | 0.0 | 0.5 | 25.5 | |
| Delay (s) | | 60.1 | 47.3 | 0.4 | 46.4 | 36.6 | | | 60.4 | 25.2 | 0.5 | 72.9 | |
| Level of Service | | E | D | A | D | D | | | E | C | A | E | |
| Approach Delay (s) | | | 32.0 | | | 40.3 | | | | 25.1 | | | |
| Approach LOS | | | C | | | D | | | | C | | | |
| Intersection Summary | | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 36.7 | | | | | | | | | HCM 2000 Level of Service | D |
| HCM 2000 Volume to Capacity ratio | | | 0.92 | | | | | | | | | | |
| Actuated Cycle Length (s) | | | 99.4 | | | | | | | | | Sum of lost time (s) | 16.0 |
| Intersection Capacity Utilization | | | 85.1% | | | | | | | | | ICU Level of Service | E |
| Analysis Period (min) | | | 15 | | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM Signalized Intersection Capacity Analysis

Cumulative + Project
 AM Peak Hour



| Movement | SBT | SBR |
|------------------------|-------|------|
| Lane Configurations | ↑↑ | |
| Volume (vph) | 260 | 130 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 4.0 | |
| Lane Util. Factor | 0.95 | |
| Frbp, ped/bikes | 0.99 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.95 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 3337 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 3337 | |
| Peak-hour factor, PHF | 0.95 | 0.95 |
| Adj. Flow (vph) | 274 | 137 |
| RTOR Reduction (vph) | 61 | 0 |
| Lane Group Flow (vph) | 350 | 0 |
| Confl. Peds. (#/hr) | | 5 |
| Confl. Bikes (#/hr) | | |
| Turn Type | NA | |
| Protected Phases | 6 | |
| Permitted Phases | | |
| Actuated Green, G (s) | 13.6 | |
| Effective Green, g (s) | 13.6 | |
| Actuated g/C Ratio | 0.14 | |
| Clearance Time (s) | 4.0 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 456 | |
| v/s Ratio Prot | c0.10 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.77 | |
| Uniform Delay, d1 | 41.4 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 7.6 | |
| Delay (s) | 48.9 | |
| Level of Service | D | |
| Approach Delay (s) | 51.2 | |
| Approach LOS | D | |

Intersection Summary

11: Parkway Dr./Jorgensen Rd. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Cumulative + Project
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 10 | 849 | 150 | 40 | 1922 | 10 | 310 | 5 | 40 | 5 | 5 | 40 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 11 | 894 | 158 | 42 | 2023 | 11 | 326 | 5 | 42 | 5 | 5 | 42 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 1717 | 303 | 53 | 2090 | 931 | 293 | 4 | 38 | 66 | 6 | 54 |
| Arrive On Green | 0.01 | 0.57 | 0.57 | 0.03 | 0.59 | 0.59 | 0.19 | 0.19 | 0.19 | 0.04 | 0.04 | 0.04 |
| Sat Flow, veh/h | 1774 | 3005 | 531 | 1774 | 3539 | 1577 | 1531 | 23 | 197 | 1774 | 171 | 1438 |
| Grp Volume(v), veh/h | 11 | 526 | 526 | 42 | 2023 | 11 | 373 | 0 | 0 | 5 | 0 | 47 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1766 | 1774 | 1770 | 1577 | 1751 | 0 | 0 | 1774 | 0 | 1609 |
| Q Serve(g_s), s | 0.6 | 17.1 | 17.1 | 2.2 | 51.4 | 0.3 | 18.0 | 0.0 | 0.0 | 0.3 | 0.0 | 2.7 |
| Cycle Q Clear(g_c), s | 0.6 | 17.1 | 17.1 | 2.2 | 51.4 | 0.3 | 18.0 | 0.0 | 0.0 | 0.3 | 0.0 | 2.7 |
| Prop In Lane | 1.00 | | 0.30 | 1.00 | | 1.00 | 0.87 | | 0.11 | 1.00 | | 0.89 |
| Lane Grp Cap(c), veh/h | 19 | 1011 | 1009 | 53 | 2090 | 931 | 335 | 0 | 0 | 66 | 0 | 60 |
| V/C Ratio(X) | 0.58 | 0.52 | 0.52 | 0.79 | 0.97 | 0.01 | 1.11 | 0.00 | 0.00 | 0.08 | 0.00 | 0.78 |
| Avail Cap(c_a), veh/h | 75 | 1011 | 1009 | 132 | 2106 | 938 | 335 | 0 | 0 | 113 | 0 | 103 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.3 | 12.3 | 12.3 | 45.4 | 18.4 | 7.9 | 38.1 | 0.0 | 0.0 | 43.7 | 0.0 | 44.9 |
| Incr Delay (d2), s/veh | 25.5 | 0.5 | 0.5 | 22.4 | 12.9 | 0.0 | 83.3 | 0.0 | 0.0 | 0.5 | 0.0 | 19.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 8.5 | 8.5 | 1.4 | 28.5 | 0.1 | 16.4 | 0.0 | 0.0 | 0.1 | 0.0 | 1.5 |
| LnGrp Delay(d),s/veh | 71.8 | 12.8 | 12.8 | 67.8 | 31.3 | 7.9 | 121.4 | 0.0 | 0.0 | 44.2 | 0.0 | 64.1 |
| LnGrp LOS | E | B | B | E | C | A | F | | | D | | E |
| Approach Vol, veh/h | | 1063 | | | 2076 | | | 373 | | | | 52 |
| Approach Delay, s/veh | | 13.4 | | | 31.9 | | | 121.4 | | | | 62.2 |
| Approach LOS | | B | | | C | | | F | | | | E |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 22.0 | 6.8 | 57.8 | | 7.5 | 5.0 | 59.6 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 18.0 | 7.0 | 53.0 | | 6.0 | 4.0 | 56.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 20.0 | 4.2 | 19.1 | | 4.7 | 2.6 | 53.4 | | | | |
| Green Ext Time (p_c), s | | 0.0 | 0.0 | 30.1 | | 0.0 | 0.0 | 2.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 36.2 | | | | | | | | | |
| HCM 2010 LOS | | | D | | | | | | | | | |

14: Oak Avenue Pkwy. & Creekside Dr./N. Lexington Dr.
 HCM 2010 Signalized Intersection Summary

Cumulative + Project
 AM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 70 | 50 | 130 | 120 | 100 | 210 | 100 | 613 | 70 | 140 | 1252 | 240 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.97 | 1.00 | | 0.99 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1900 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 74 | 53 | 137 | 126 | 105 | 221 | 105 | 645 | 74 | 147 | 1318 | 253 |
| Adj No. of Lanes | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 3 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 124 | 89 | 184 | 172 | 143 | 268 | 136 | 1871 | 213 | 182 | 1842 | 354 |
| Arrive On Green | 0.12 | 0.12 | 0.12 | 0.17 | 0.17 | 0.17 | 0.08 | 0.40 | 0.40 | 0.10 | 0.43 | 0.43 |
| Sat Flow, veh/h | 1055 | 755 | 1563 | 989 | 824 | 1541 | 1774 | 4630 | 526 | 1774 | 4285 | 822 |
| Grp Volume(v), veh/h | 127 | 0 | 137 | 231 | 0 | 221 | 105 | 471 | 248 | 147 | 1043 | 528 |
| Grp Sat Flow(s),veh/h/ln | 1810 | 0 | 1563 | 1813 | 0 | 1541 | 1774 | 1695 | 1766 | 1774 | 1695 | 1718 |
| Q Serve(g_s), s | 5.3 | 0.0 | 6.7 | 9.6 | 0.0 | 11.0 | 4.6 | 7.6 | 7.7 | 6.4 | 20.1 | 20.1 |
| Cycle Q Clear(g_c), s | 5.3 | 0.0 | 6.7 | 9.6 | 0.0 | 11.0 | 4.6 | 7.6 | 7.7 | 6.4 | 20.1 | 20.1 |
| Prop In Lane | 0.58 | | 1.00 | 0.55 | | 1.00 | 1.00 | | 0.30 | 1.00 | | 0.48 |
| Lane Grp Cap(c), veh/h | 213 | 0 | 184 | 316 | 0 | 268 | 136 | 1370 | 713 | 182 | 1457 | 738 |
| V/C Ratio(X) | 0.60 | 0.00 | 0.74 | 0.73 | 0.00 | 0.82 | 0.77 | 0.34 | 0.35 | 0.81 | 0.72 | 0.72 |
| Avail Cap(c_a), veh/h | 365 | 0 | 315 | 389 | 0 | 330 | 313 | 1796 | 935 | 201 | 1582 | 801 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.2 | 0.0 | 33.8 | 31.0 | 0.0 | 31.6 | 35.9 | 16.4 | 16.4 | 34.8 | 18.6 | 18.6 |
| Incr Delay (d2), s/veh | 2.7 | 0.0 | 5.8 | 5.4 | 0.0 | 13.0 | 9.0 | 0.1 | 0.3 | 19.7 | 1.4 | 2.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.8 | 0.0 | 3.2 | 5.2 | 0.0 | 5.6 | 2.6 | 3.6 | 3.8 | 4.1 | 9.6 | 10.0 |
| LnGrp Delay(d),s/veh | 35.8 | 0.0 | 39.7 | 36.4 | 0.0 | 44.6 | 44.9 | 16.5 | 16.7 | 54.5 | 20.0 | 21.4 |
| LnGrp LOS | D | | D | D | | D | D | B | B | D | C | C |
| Approach Vol, veh/h | | 264 | | | 452 | | | 824 | | | 1718 | |
| Approach Delay, s/veh | | 37.8 | | | 40.4 | | | 20.2 | | | 23.4 | |
| Approach LOS | | D | | | D | | | C | | | C | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 12.1 | 36.0 | | 13.3 | 10.1 | 38.1 | | 17.8 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 9.0 | 42.0 | | 16.0 | 14.0 | 37.0 | | 17.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.4 | 9.7 | | 8.7 | 6.6 | 22.1 | | 13.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 21.7 | | 0.6 | 0.1 | 12.0 | | 0.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 26.1 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |

Intersection

Int Delay, s/veh 0.1

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 1020 | 2 | 0 | 1820 | 0 | 22 |
| Conflicting Peds, #/hr | 0 | 5 | 0 | 0 | 0 | 5 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1109 | 2 | 0 | 1978 | 0 | 24 |

| Major/Minor | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 1116 |
| Stage 1 | - | - | 1115 |
| Stage 2 | - | - | 989 |
| Critical Hdwy | - | 4.14 | 6.84 |
| Critical Hdwy Stg 1 | - | - | 5.84 |
| Critical Hdwy Stg 2 | - | - | 5.84 |
| Follow-up Hdwy | - | 2.22 | 3.52 |
| Pot Cap-1 Maneuver | - | 622 | 44 |
| Stage 1 | - | - | 275 |
| Stage 2 | - | - | 321 |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | - | 622 | 44 |
| Mov Cap-2 Maneuver | - | - | 44 |
| Stage 1 | - | - | 274 |
| Stage 2 | - | - | 320 |

| Approach | EB | WB | NB |
|----------------------|----|----|------|
| HCM Control Delay, s | 0 | 0 | 13.1 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-----|-----|
| Capacity (veh/h) | 470 | - | - | 622 | - |
| HCM Lane V/C Ratio | 0.051 | - | - | - | - |
| HCM Control Delay (s) | 13.1 | - | - | 0 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

Intersection

Int Delay, s/veh 0.1

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 8 | 0 | 890 | 1620 | 5 |
| Conflicting Peds, #/hr | 0 | 5 | 0 | 0 | 0 | 5 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 9 | 0 | 967 | 1761 | 5 |

| Major/Minor | Minor2 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 2156 | 888 | 1771 |
| Stage 1 | 1769 | - | - |
| Stage 2 | 387 | - | - |
| Critical Hdwy | 5.74 | 7.14 | 5.34 |
| Critical Hdwy Stg 1 | 6.64 | - | - |
| Critical Hdwy Stg 2 | 6.04 | - | - |
| Follow-up Hdwy | 3.82 | 3.92 | 3.12 |
| Pot Cap-1 Maneuver | 77 | 246 | 163 |
| Stage 1 | 80 | - | - |
| Stage 2 | 600 | - | - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | 76 | 245 | 163 |
| Mov Cap-2 Maneuver | 76 | - | - |
| Stage 1 | 80 | - | - |
| Stage 2 | 598 | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 20.2 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-----|-----|-------|-----|-----|
| Capacity (veh/h) | 163 | - | 245 | - | - |
| HCM Lane V/C Ratio | - | - | 0.035 | - | - |
| HCM Control Delay (s) | 0 | - | 20.2 | - | - |
| HCM Lane LOS | A | - | C | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.1 | - | - |

Intersection

Intersection Delay, s/veh 9.9
 Intersection LOS A

| Movement | EBU | EBT | EBR | WBU | WBL | WBT | NBU | NBL | NBR |
|-------------------|------|------|------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 20 | 30 | 0 | 121 | 20 | 0 | 100 | 311 |
| Peak Hour Factor | 0.92 | 0.88 | 0.88 | 0.92 | 0.88 | 0.88 | 0.92 | 0.88 | 0.88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 23 | 34 | 0 | 137 | 23 | 0 | 114 | 353 |
| Number of Lanes | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |

| Approach | EB | WB | NB |
|----------------------------|-----|-----|------|
| Opposing Approach | WB | EB | |
| Opposing Lanes | 1 | 1 | 0 |
| Conflicting Approach Left | | NB | EB |
| Conflicting Lanes Left | 0 | 2 | 1 |
| Conflicting Approach Right | NB | | WB |
| Conflicting Lanes Right | 2 | 0 | 1 |
| HCM Control Delay | 8.3 | 9.8 | 10.2 |
| HCM LOS | A | A | B |

| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 |
|------------------------|-------|-------|-------|-------|
| Vol Left, % | 100% | 0% | 0% | 86% |
| Vol Thru, % | 0% | 0% | 40% | 14% |
| Vol Right, % | 0% | 100% | 60% | 0% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 100 | 311 | 50 | 141 |
| LT Vol | 100 | 0 | 0 | 121 |
| Through Vol | 0 | 0 | 20 | 20 |
| RT Vol | 0 | 311 | 30 | 0 |
| Lane Flow Rate | 114 | 353 | 57 | 160 |
| Geometry Grp | 7 | 7 | 2 | 2 |
| Degree of Util (X) | 0.176 | 0.431 | 0.076 | 0.231 |
| Departure Headway (Hd) | 5.591 | 4.386 | 4.803 | 5.182 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 641 | 820 | 743 | 692 |
| Service Time | 3.327 | 2.121 | 2.853 | 3.223 |
| HCM Lane V/C Ratio | 0.178 | 0.43 | 0.077 | 0.231 |
| HCM Control Delay | 9.5 | 10.4 | 8.3 | 9.8 |
| HCM Lane LOS | A | B | A | A |
| HCM 95th-tile Q | 0.6 | 2.2 | 0.2 | 0.9 |

8: Flower Dr. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Cumulative + Project
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-----------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 160 | 1607 | 90 | 40 | 1134 | 90 | 40 | 0 | 20 | 70 | 0 | 80 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.98 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 176 | 1766 | 99 | 44 | 1246 | 99 | 44 | 0 | 22 | 77 | 0 | 88 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 | 0.91 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 214 | 2451 | 136 | 55 | 2093 | 166 | 123 | 13 | 34 | 237 | 0 | 174 |
| Arrive On Green | 0.12 | 0.72 | 0.72 | 0.03 | 0.63 | 0.63 | 0.11 | 0.00 | 0.11 | 0.11 | 0.00 | 0.11 |
| Sat Flow, veh/h | 1774 | 3405 | 189 | 1774 | 3321 | 263 | 485 | 118 | 301 | 1384 | 0 | 1549 |
| Grp Volume(v), veh/h | 176 | 910 | 955 | 44 | 663 | 682 | 66 | 0 | 0 | 77 | 0 | 88 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1824 | 1774 | 1770 | 1815 | 904 | 0 | 0 | 1384 | 0 | 1549 |
| Q Serve(g_s), s | 8.5 | 26.1 | 27.1 | 2.2 | 19.5 | 19.6 | 2.8 | 0.0 | 0.0 | 0.0 | 0.0 | 4.7 |
| Cycle Q Clear(g_c), s | 8.5 | 26.1 | 27.1 | 2.2 | 19.5 | 19.6 | 7.5 | 0.0 | 0.0 | 4.6 | 0.0 | 4.7 |
| Prop In Lane | 1.00 | | 0.10 | 1.00 | | 0.15 | 0.67 | | 0.33 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 214 | 1274 | 1313 | 55 | 1115 | 1144 | 170 | 0 | 0 | 237 | 0 | 174 |
| V/C Ratio(X) | 0.82 | 0.71 | 0.73 | 0.79 | 0.59 | 0.60 | 0.39 | 0.00 | 0.00 | 0.32 | 0.00 | 0.50 |
| Avail Cap(c_a), veh/h | 363 | 1368 | 1410 | 121 | 1126 | 1155 | 234 | 0 | 0 | 302 | 0 | 246 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 37.7 | 7.1 | 7.2 | 42.3 | 9.6 | 9.6 | 38.6 | 0.0 | 0.0 | 36.7 | 0.0 | 36.7 |
| Incr Delay (d2), s/veh | 7.6 | 1.7 | 1.8 | 21.8 | 0.8 | 0.8 | 1.4 | 0.0 | 0.0 | 0.8 | 0.0 | 2.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.6 | 13.0 | 13.9 | 1.4 | 9.6 | 9.9 | 1.6 | 0.0 | 0.0 | 1.8 | 0.0 | 2.1 |
| LnGrp Delay(d),s/veh | 45.3 | 8.8 | 9.0 | 64.1 | 10.5 | 10.5 | 40.0 | 0.0 | 0.0 | 37.5 | 0.0 | 39.0 |
| LnGrp LOS | D | A | A | E | B | B | D | | | D | | D |
| Approach Vol, veh/h | | 2041 | | | 1389 | | | 66 | | | | 165 |
| Approach Delay, s/veh | | 12.0 | | | 12.2 | | | 40.0 | | | | 38.3 |
| Approach LOS | | B | | | B | | | D | | | | D |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 13.9 | 6.8 | 67.3 | | 13.9 | 14.6 | 59.4 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 14.0 | 6.0 | 68.0 | | 14.0 | 18.0 | 56.0 | | | | |
| Max Q Clear Time (g_c+1), s | | 9.5 | 4.2 | 29.1 | | 6.7 | 10.5 | 21.6 | | | | |
| Green Ext Time (p_c), s | | 0.4 | 0.0 | 34.3 | | 0.6 | 0.3 | 30.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 13.8 | | | | | | | | | |
| HCM 2010 LOS | | | B | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM Signalized Intersection Capacity Analysis

Cumulative + Project
 PM Peak Hour

| Movement | EBU | EBL | EBT | EBR | WBL | WBT | WBR | NBU | NBL | NBT | NBR | SBL |
|-----------------------------------|------|------|-------|------|-------|---------------------------|------|------|-------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (vph) | 4 | 111 | 1405 | 202 | 579 | 1020 | 50 | 12 | 210 | 290 | 950 | 70 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Total Lost time (s) | | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | | | 4.0 | 4.0 | 4.0 | 4.0 |
| Lane Util. Factor | | 0.97 | 0.95 | 1.00 | 0.97 | 0.95 | | | 1.00 | 0.91 | 1.00 | 1.00 |
| Frb, ped/bikes | | 1.00 | 1.00 | 0.99 | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Flpb, ped/bikes | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 1.00 | 1.00 | 0.85 | 1.00 | 0.99 | | | 1.00 | 1.00 | 0.85 | 1.00 |
| Flt Protected | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 |
| Satd. Flow (prot) | | 3433 | 3362 | 1563 | 3433 | 3512 | | | 1770 | 5085 | 1583 | 1770 |
| Flt Permitted | | 0.95 | 1.00 | 1.00 | 0.95 | 1.00 | | | 0.95 | 1.00 | 1.00 | 0.95 |
| Satd. Flow (perm) | | 3433 | 3362 | 1563 | 3433 | 3512 | | | 1770 | 5085 | 1583 | 1770 |
| Peak-hour factor, PHF | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 4 | 121 | 1527 | 220 | 629 | 1109 | 54 | 13 | 228 | 315 | 1033 | 76 |
| RTOR Reduction (vph) | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Group Flow (vph) | 0 | 125 | 1527 | 220 | 629 | 1159 | 0 | 0 | 241 | 315 | 1033 | 76 |
| Confl. Peds. (#/hr) | | | | | | | 5 | | | | | |
| Confl. Bikes (#/hr) | | | | 5 | | | | | | | | |
| Parking (#/hr) | | | 0 | | | | | | | | | |
| Turn Type | Prot | Prot | NA | Free | Prot | NA | | Prot | Prot | NA | Free | Prot |
| Protected Phases | 7 | 7 | 4 | | 3 | 8 | | 5 | 5 | 2 | | 1 |
| Permitted Phases | | | | Free | | | | | | | Free | |
| Actuated Green, G (s) | | 6.9 | 41.0 | 99.6 | 21.0 | 55.1 | | | 14.0 | 14.7 | 99.6 | 6.9 |
| Effective Green, g (s) | | 6.9 | 41.0 | 99.6 | 21.0 | 55.1 | | | 14.0 | 14.7 | 99.6 | 6.9 |
| Actuated g/C Ratio | | 0.07 | 0.41 | 1.00 | 0.21 | 0.55 | | | 0.14 | 0.15 | 1.00 | 0.07 |
| Clearance Time (s) | | 4.0 | 4.0 | | 4.0 | 4.0 | | | 4.0 | 4.0 | | 4.0 |
| Vehicle Extension (s) | | 3.0 | 3.0 | | 3.0 | 3.0 | | | 3.0 | 3.0 | | 3.0 |
| Lane Grp Cap (vph) | | 237 | 1383 | 1563 | 723 | 1942 | | | 248 | 750 | 1583 | 122 |
| v/s Ratio Prot | | 0.04 | c0.45 | | c0.18 | 0.33 | | | c0.14 | 0.06 | | 0.04 |
| v/s Ratio Perm | | | | 0.14 | | | | | | | c0.65 | |
| v/c Ratio | | 0.53 | 1.10 | 0.14 | 0.87 | 0.60 | | | 0.97 | 0.42 | 0.65 | 0.62 |
| Uniform Delay, d1 | | 44.8 | 29.3 | 0.0 | 38.0 | 14.8 | | | 42.6 | 38.6 | 0.0 | 45.1 |
| Progression Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | | 1.00 | 1.00 | 1.00 | 1.00 |
| Incremental Delay, d2 | | 2.1 | 58.0 | 0.2 | 10.9 | 0.5 | | | 49.0 | 0.4 | 2.1 | 9.5 |
| Delay (s) | | 46.9 | 87.3 | 0.2 | 48.9 | 15.3 | | | 91.6 | 39.0 | 2.1 | 54.6 |
| Level of Service | | D | F | A | D | B | | | F | D | A | D |
| Approach Delay (s) | | | 74.4 | | | 27.1 | | | | 23.0 | | |
| Approach LOS | | | E | | | C | | | | C | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2000 Control Delay | | | 43.0 | | | HCM 2000 Level of Service | | | | D | | |
| HCM 2000 Volume to Capacity ratio | | | 1.01 | | | | | | | | | |
| Actuated Cycle Length (s) | | | 99.6 | | | Sum of lost time (s) | | | 16.0 | | | |
| Intersection Capacity Utilization | | | 85.7% | | | ICU Level of Service | | | E | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |
| c Critical Lane Group | | | | | | | | | | | | |

3: Oak Avenue Pkwy. & Blue Ravine Rd.
 HCM Signalized Intersection Capacity Analysis

Cumulative + Project
 PM Peak Hour



| Movement | SBT | SBR |
|------------------------|------|------|
| Lane Configurations | ↑↑ | |
| Volume (vph) | 111 | 50 |
| Ideal Flow (vphpl) | 1900 | 1900 |
| Total Lost time (s) | 4.0 | |
| Lane Util. Factor | 0.95 | |
| Frb, ped/bikes | 0.99 | |
| Flpb, ped/bikes | 1.00 | |
| Frt | 0.95 | |
| Flt Protected | 1.00 | |
| Satd. Flow (prot) | 3348 | |
| Flt Permitted | 1.00 | |
| Satd. Flow (perm) | 3348 | |
| Peak-hour factor, PHF | 0.92 | 0.92 |
| Adj. Flow (vph) | 121 | 54 |
| RTOR Reduction (vph) | 50 | 0 |
| Lane Group Flow (vph) | 125 | 0 |
| Conf. Peds. (#/hr) | | |
| Conf. Bikes (#/hr) | | 5 |
| Parking (#/hr) | | |
| Turn Type | NA | |
| Protected Phases | 6 | |
| Permitted Phases | | |
| Actuated Green, G (s) | 7.6 | |
| Effective Green, g (s) | 7.6 | |
| Actuated g/C Ratio | 0.08 | |
| Clearance Time (s) | 4.0 | |
| Vehicle Extension (s) | 3.0 | |
| Lane Grp Cap (vph) | 255 | |
| v/s Ratio Prot | 0.04 | |
| v/s Ratio Perm | | |
| v/c Ratio | 0.49 | |
| Uniform Delay, d1 | 44.1 | |
| Progression Factor | 1.00 | |
| Incremental Delay, d2 | 1.5 | |
| Delay (s) | 45.6 | |
| Level of Service | D | |
| Approach Delay (s) | 48.3 | |
| Approach LOS | D | |
| Intersection Summary | | |

11: Parkway Dr./Jorgensen Rd. & Blue Ravine Rd.
 HCM 2010 Signalized Intersection Summary

Cumulative + Project
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Volume (veh/h) | 40 | 1745 | 310 | 60 | 1299 | 20 | 160 | 0 | 40 | 10 | 0 | 30 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1900 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 43 | 1897 | 337 | 65 | 1412 | 22 | 174 | 0 | 43 | 11 | 0 | 33 |
| Adj No. of Lanes | 1 | 2 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 1 | 1 | 0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 54 | 1988 | 341 | 73 | 2376 | 1063 | 144 | 0 | 36 | 51 | 0 | 46 |
| Arrive On Green | 0.03 | 0.66 | 0.66 | 0.04 | 0.67 | 0.67 | 0.10 | 0.00 | 0.10 | 0.03 | 0.00 | 0.03 |
| Sat Flow, veh/h | 1774 | 3010 | 517 | 1774 | 3539 | 1583 | 1389 | 0 | 343 | 1774 | 0 | 1583 |
| Grp Volume(v), veh/h | 43 | 1088 | 1146 | 65 | 1412 | 22 | 217 | 0 | 0 | 11 | 0 | 33 |
| Grp Sat Flow(s),veh/h/ln | 1774 | 1770 | 1757 | 1774 | 1770 | 1583 | 1733 | 0 | 0 | 1774 | 0 | 1583 |
| Q Serve(g_s), s | 2.3 | 52.4 | 61.4 | 3.5 | 21.1 | 0.4 | 10.0 | 0.0 | 0.0 | 0.6 | 0.0 | 2.0 |
| Cycle Q Clear(g_c), s | 2.3 | 52.4 | 61.4 | 3.5 | 21.1 | 0.4 | 10.0 | 0.0 | 0.0 | 0.6 | 0.0 | 2.0 |
| Prop In Lane | 1.00 | | 0.29 | 1.00 | | 1.00 | 0.80 | | 0.20 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 54 | 1169 | 1161 | 73 | 2376 | 1063 | 179 | 0 | 0 | 51 | 0 | 46 |
| V/C Ratio(X) | 0.79 | 0.93 | 0.99 | 0.88 | 0.59 | 0.02 | 1.21 | 0.00 | 0.00 | 0.22 | 0.00 | 0.72 |
| Avail Cap(c_a), veh/h | 110 | 1173 | 1165 | 73 | 2376 | 1063 | 179 | 0 | 0 | 110 | 0 | 98 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 46.5 | 14.5 | 16.0 | 46.1 | 8.7 | 5.3 | 43.3 | 0.0 | 0.0 | 45.8 | 0.0 | 46.5 |
| Incr Delay (d2), s/veh | 21.7 | 13.0 | 23.1 | 67.1 | 0.4 | 0.0 | 134.8 | 0.0 | 0.0 | 2.1 | 0.0 | 19.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 29.3 | 36.7 | 3.1 | 10.3 | 0.2 | 11.5 | 0.0 | 0.0 | 0.3 | 0.0 | 1.1 |
| LnGrp Delay(d),s/veh | 68.2 | 27.5 | 39.1 | 113.2 | 9.1 | 5.3 | 178.1 | 0.0 | 0.0 | 47.9 | 0.0 | 65.9 |
| LnGrp LOS | E | C | D | F | A | A | F | | | D | | E |
| Approach Vol, veh/h | | 2277 | | | 1499 | | | 217 | | | | 44 |
| Approach Delay, s/veh | | 34.1 | | | 13.5 | | | 178.1 | | | | 61.4 |
| Approach LOS | | C | | | B | | | F | | | | E |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | | 2 | 3 | 4 | | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 14.0 | 8.0 | 67.8 | | 6.8 | 7.0 | 68.8 | | | | |
| Change Period (Y+Rc), s | | 4.0 | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | | | |
| Max Green Setting (Gmax), s | | 10.0 | 4.0 | 64.0 | | 6.0 | 6.0 | 62.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 12.0 | 5.5 | 63.4 | | 4.0 | 4.3 | 23.1 | | | | |
| Green Ext Time (p_c), s | | 0.0 | 0.0 | 0.4 | | 0.0 | 0.0 | 37.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 34.5 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |

14: Oak Avenue Pkwy. & Creekside Dr./N. Lexington Dr.
 HCM 2010 Signalized Intersection Summary

Cumulative + Project
 PM Peak Hour

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | ↗ | | ↕ | ↗ | ↖ | ↑↑↑ | | ↖ | ↑↑↑ | |
| Volume (veh/h) | 240 | 90 | 100 | 70 | 40 | 110 | 100 | 1112 | 130 | 110 | 706 | 70 |
| Number | 7 | 4 | 14 | 3 | 8 | 18 | 5 | 2 | 12 | 1 | 6 | 16 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.98 | 1.00 | | 0.97 |
| Parking Bus, 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 |
| Adj Sat Flow, veh/h/ln | 1900 | 1863 | 1863 | 1900 | 1863 | 1863 | 1863 | 1863 | 1900 | 1863 | 1863 | 1900 |
| Adj Flow Rate, veh/h | 255 | 96 | 106 | 74 | 43 | 117 | 106 | 1183 | 138 | 117 | 751 | 74 |
| Adj No. of Lanes | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 3 | 0 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 306 | 115 | 365 | 116 | 67 | 157 | 136 | 1753 | 204 | 149 | 1821 | 178 |
| Arrive On Green | 0.23 | 0.23 | 0.23 | 0.10 | 0.10 | 0.10 | 0.08 | 0.38 | 0.38 | 0.08 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1306 | 492 | 1557 | 1142 | 664 | 1547 | 1774 | 4605 | 537 | 1774 | 4695 | 459 |
| Grp Volume(v), veh/h | 351 | 0 | 106 | 117 | 0 | 117 | 106 | 871 | 450 | 117 | 541 | 284 |
| Grp Sat Flow(s),veh/h/ln | 1797 | 0 | 1557 | 1806 | 0 | 1547 | 1774 | 1695 | 1752 | 1774 | 1695 | 1764 |
| Q Serve(g_s), s | 14.9 | 0.0 | 4.5 | 5.0 | 0.0 | 5.9 | 4.7 | 17.2 | 17.2 | 5.2 | 9.3 | 9.4 |
| Cycle Q Clear(g_c), s | 14.9 | 0.0 | 4.5 | 5.0 | 0.0 | 5.9 | 4.7 | 17.2 | 17.2 | 5.2 | 9.3 | 9.4 |
| Prop In Lane | 0.73 | | 1.00 | 0.63 | | 1.00 | 1.00 | | 0.31 | 1.00 | | 0.26 |
| Lane Grp Cap(c), veh/h | 422 | 0 | 365 | 183 | 0 | 157 | 136 | 1291 | 667 | 149 | 1315 | 684 |
| V/C Ratio(X) | 0.83 | 0.00 | 0.29 | 0.64 | 0.00 | 0.75 | 0.78 | 0.67 | 0.68 | 0.79 | 0.41 | 0.42 |
| Avail Cap(c_a), veh/h | 627 | 0 | 543 | 247 | 0 | 212 | 265 | 1436 | 742 | 243 | 1394 | 725 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.2 | 0.0 | 25.2 | 34.6 | 0.0 | 35.1 | 36.4 | 20.7 | 20.7 | 36.1 | 17.9 | 17.9 |
| Incr Delay (d2), s/veh | 6.1 | 0.0 | 0.4 | 3.7 | 0.0 | 9.2 | 9.2 | 1.1 | 2.1 | 8.8 | 0.2 | 0.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 8.1 | 0.0 | 2.0 | 2.7 | 0.0 | 2.9 | 2.6 | 8.2 | 8.6 | 2.9 | 4.4 | 4.7 |
| LnGrp Delay(d),s/veh | 35.3 | 0.0 | 25.7 | 38.3 | 0.0 | 44.3 | 45.5 | 21.8 | 22.8 | 44.8 | 18.1 | 18.3 |
| LnGrp LOS | D | | C | D | | D | D | C | C | D | B | B |
| Approach Vol, veh/h | | 457 | | | 234 | | | 1427 | | | 942 | |
| Approach Delay, s/veh | | 33.1 | | | 41.3 | | | 23.9 | | | 21.5 | |
| Approach LOS | | C | | | D | | | C | | | C | |
| Timer | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 10.7 | 34.6 | | 22.8 | 10.2 | 35.1 | | 12.1 | | | | |
| Change Period (Y+Rc), s | 4.0 | 4.0 | | 4.0 | 4.0 | 4.0 | | 4.0 | | | | |
| Max Green Setting (Gmax), s | 11.0 | 34.0 | | 28.0 | 12.0 | 33.0 | | 11.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.2 | 19.2 | | 16.9 | 6.7 | 11.4 | | 7.9 | | | | |
| Green Ext Time (p_c), s | 0.1 | 11.4 | | 1.9 | 0.1 | 15.2 | | 0.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 2010 Ctrl Delay | | | 25.9 | | | | | | | | | |
| HCM 2010 LOS | | | C | | | | | | | | | |

Intersection

Int Delay, s/veh 0.1

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 1690 | 7 | 0 | 1280 | 0 | 12 |
| Conflicting Peds, #/hr | 0 | 5 | 0 | 0 | 0 | 5 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1837 | 8 | 0 | 1391 | 0 | 13 |

| Major/Minor | Major1 | Major2 | Minor1 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 1850 |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Critical Hdwy | - | 4.14 | - |
| Critical Hdwy Stg 1 | - | - | - |
| Critical Hdwy Stg 2 | - | - | - |
| Follow-up Hdwy | - | 2.22 | - |
| Pot Cap-1 Maneuver | - | 324 | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | - | 324 | - |
| Mov Cap-2 Maneuver | - | - | - |
| Stage 1 | - | - | - |
| Stage 2 | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|----|------|
| HCM Control Delay, s | 0 | 0 | 19.1 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-----|-----|
| Capacity (veh/h) | 269 | - | - | 324 | - |
| HCM Lane V/C Ratio | 0.048 | - | - | - | - |
| HCM Control Delay (s) | 19.1 | - | - | 0 | - |
| HCM Lane LOS | C | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0 | - |

Intersection

Int Delay, s/veh 0

| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
|--------------------------|------|------|------|------|------|------|
| Vol, veh/h | 0 | 4 | 0 | 1450 | 880 | 22 |
| Conflicting Peds, #/hr | 0 | 5 | 0 | 0 | 0 | 5 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 0 | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 4 | 0 | 1576 | 957 | 24 |

| Major/Minor | Minor2 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 1603 | 495 | 985 |
| Stage 1 | 973 | - | - |
| Stage 2 | 630 | - | - |
| Critical Hdwy | 5.74 | 7.14 | 5.34 |
| Critical Hdwy Stg 1 | 6.64 | - | - |
| Critical Hdwy Stg 2 | 6.04 | - | - |
| Follow-up Hdwy | 3.82 | 3.92 | 3.12 |
| Pot Cap-1 Maneuver | 152 | 445 | 398 |
| Stage 1 | 251 | - | - |
| Stage 2 | 449 | - | - |
| Platoon blocked, % | - | - | - |
| Mov Cap-1 Maneuver | 151 | 443 | 398 |
| Mov Cap-2 Maneuver | 151 | - | - |
| Stage 1 | 250 | - | - |
| Stage 2 | 447 | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 13.2 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-----|-----|-------|-----|-----|
| Capacity (veh/h) | 398 | - | 443 | - | - |
| HCM Lane V/C Ratio | - | - | 0.01 | - | - |
| HCM Control Delay (s) | 0 | - | 13.2 | - | - |
| HCM Lane LOS | A | - | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

APPENDIX G

APARTMENT PARKING DEMAND STUDY

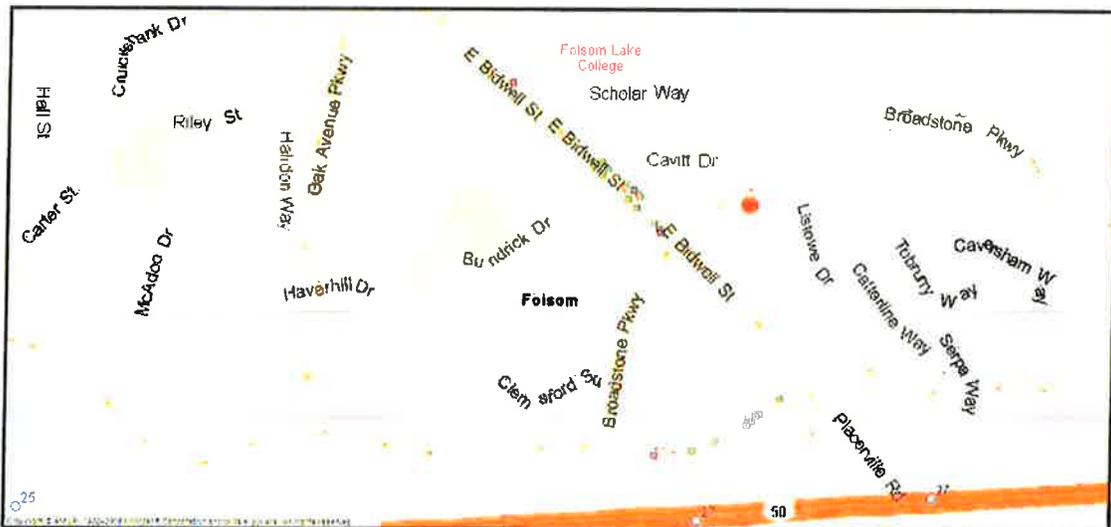
October 18, 2015

Mr. Milo Terzich
USA PROPERTIES FUND, INC.
3200 Douglas Boulevard, Suite 200
Roseville, CA 95661

RE: PARKING PROVISION – “TALAVERA RIDGE” APARTMENTS, FOLSOM, CA

Dear Milo:

This report addresses parking considerations for *Talavera Ridge*, a proposed 304-unit conventional apartment project in Folsom, at the corner of Broadstone Parkway and Cavitt Drive, 1.0 mile north of Highway 50.



This Letter Report includes 1) quantitative research on parking ratios for existing apartment projects in the Sacramento Metro area; 2) information on parking adequacy gleaned through interviews with property managers; 3) review of site characteristics that may influence vehicle ownership.

PROJECT CONCEPT/POSITIONING

Talavera Ridge is a planned 304-unit, three- and four-story apartment building with on-grade parking.

Talavera Ridge will contain 54% 1BR units and 46% 2BR units, in six different plans. The project does not contain any 3BR units.

| UNIT MIX: TALAVERA RIDGE | | |
|---------------------------------|----------------|----------------|
| Unit Type | # Units | % Units |
| Jr 1/1 | 29 | 10% |
| 1/1 | 105 | 35% |
| 1+den/1 | 30 | 10% |
| Total 1BR | 164 | 54% |
| 2/1.75 | 13 | 4% |
| 2/1.75 | 86 | 28% |
| 2+den/1.75 | 41 | 13% |
| Total 2BR | 140 | 46% |
| TOTAL | 304 | 100% |

The target market for *Talavera Ridge* comprises singles and childless couples (attracted to the site's superb walkability), and some starter families (attracted to the very good schools in Folsom-Cordova Unified, the top-ranked district in the county). By virtue of elevator design and proximity to retail and services, the project may also attract some seniors/move-downs ($\pm 10\%$).

Parking Provision

As presently designed, *Talavera Ridge* will have 524 parking spaces, for a ratio of 1.72 spaces per unit and 1.18 spaces per bedroom.

| TALAVERA RIDGE | | |
|---|-------------------------|-------------------------------|
| Parking Type | # Parking Spaces | Parking Ratio Per Unit |
| Garages spaces | 71 | 0.23 |
| Carport | 250 | 0.82 |
| Total covered | 321 | 1.06 |
| Open (surplus, guest, leasing office, vendor) | 203 | 0.67 |
| TOTAL PARKING (a) | 524 | 1.72 |
| # units | 304 | |
| # bedrooms | 444 | |
| Ratio per bedroom | 1.18 | |
| (a) Includes 11 handicap spaces | | |

The ratio of covered parking is 1.06 spaces per unit.

The project's 71 garages represent the equivalent of 0.23 garage spaces per unit, or one garage for approximately every four units.

REGIONAL PARKING STANDARDS – APARTMENTS IN SACRAMENTO METRO

Our database contains 571 apartment projects in the close-in Sacramento Metro area, defined here as Sacramento, Placer and El Dorado counties.

We drilled down to projects that met all of the following criteria:

- 1) market rate or primarily market rate [two projects with 5% to 15% setasides were included]
- 2) built [planned/proposed projects excluded]
- 3) constructed between 2000 and 2015
- 4) purpose-built as apartments [i.e., not “broken” condos, although projects that are condo mapped are included]
- 5) not mixed-use [i.e., without a retail component creating separate parking needs]
- 6) detailed parking data available, per project approvals, listing packages, architects and/or telephone calls to on-site property management

Exhibit 1 lists 29 projects (6,074 units) that meet the preceding criteria.

The 29 projects represent a cross-section of urban, suburban and semi-suburban locations.

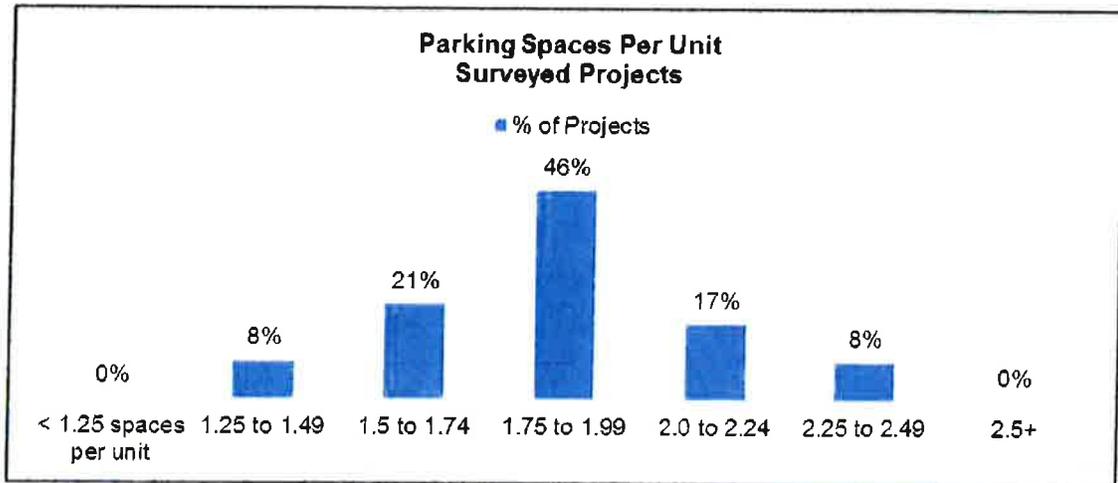
- 24 of the 29 are located in Folsom, El Dorado Hills, Rocklin, Roseville, Elk Grove, Citrus Heights and suburban neighborhoods in the city of Sacramento.
- 5 of the 29 are located in Downtown or Midtown Sacramento. These projects are characterized by higher density and much lower parking ratios (by virtue of proximity to mass transit and employment and different parking requirements in the urban core). **We excluded “Downtown/Midtown” projects from our calculations, to best assess properties in locations comparable to Folsom with respect to development density.**

Exhibit 2 shows parking ratios for the 24 “suburban” projects [exclusive of Downtown/Midtown], ranked in ascending order by parking spaces per unit.

Parking ratios per unit cover a wide range, from 1.28 to 2.45 spaces per unit. This is a function of the following factors:

- 1) Differences in local zoning. More than seven different city, county or PUD jurisdictions are represented among the 24 projects.
- 2) Differences in unit mix. With few exceptions, projects with unit mix concentrated in plans with two or more bedrooms provide more parking spaces than those where 1BR units predominate.
- 3) Differences in parking standards for projects built to condo specs (enabling future condo conversion) as opposed to those designed/approved to function as apartments in perpetuity.
 - Among the 24 projects, the mean (average) parking ratio is 1.87 spaces per unit.
 - The median (midpoint) parking ratio calculates to 1.90 spaces per unit.

The breakdown of parking-space-per-unit ratios among the 24 projects is shown below. Nearly half the projects (46%) are parked between 1.75 and 1.99:1.

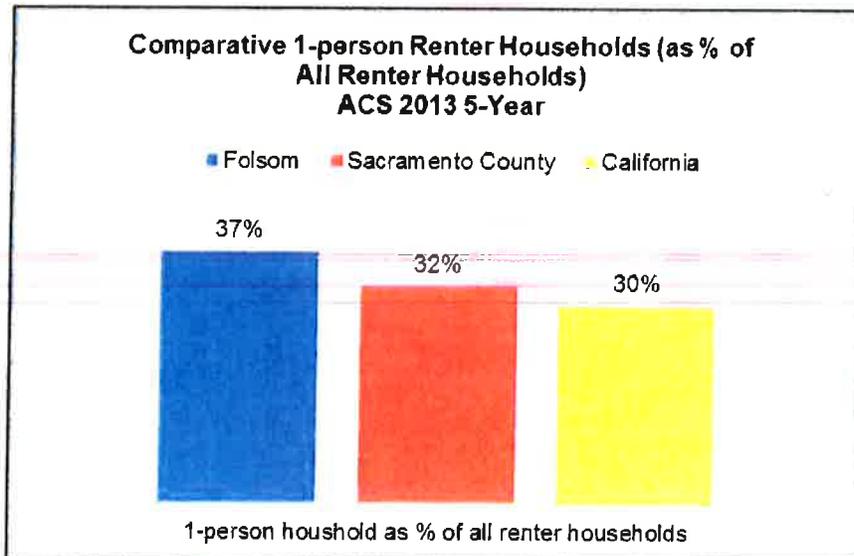


Note that these ratios are calculated against total units in each project, i.e., 100% occupancy. Since most apartments run at 95% to 97% occupancy, 3% to 5% of units are likely to be vacant at any given time, reducing the actual parking need.

As discussed below, parking ratios calculated on a per-unit basis distort the relationship of *Talavera Ridge* to the comparables, due to the dominance of 1BR units in the *Talavera Ridge* unit mix.

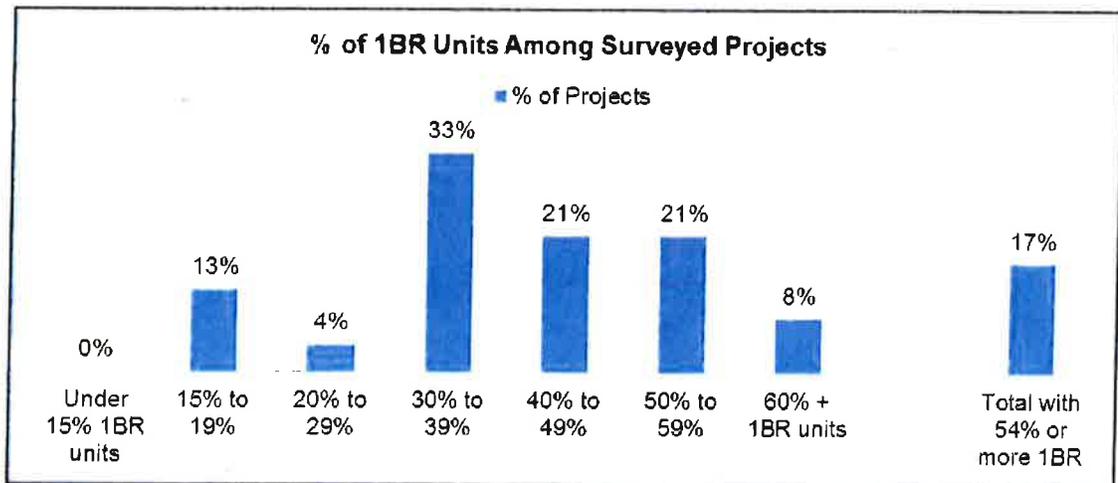
EFFECTS OF UNIT MIX ON PARKING

Talavera Ridge comprises 164 1BR units, representing 54% of the total unit mix. This is a good fit to local renter demographics, as Folsom has a significantly higher percentage of one-person renter households than either the county or state, as shown below.



The dominance of 1BR units in *Talavera Ridge* has a material effect on parking need/utilization, since 1BR units are more likely than 2BR units to be occupied by a single resident (likely with one vehicle).

- The proportion of 1BR units in the 24 surveyed projects ranges from 15% to 62%. The mean and median percentage of 1BR units is 39%, versus 54% 1BR units at *Talavera Ridge*.
- Just four (17%) of the 24 projects have ratios of 1BR units that meet or exceed the 54% 1BR ratio for *Talavera Ridge*.



Parking ratios per bedroom are shown in ascending order in Exhibit 3.

- The mean ratio among the 24 projects is 1.10 spaces per bedroom.
- The median is 1.08 spaces per bedroom.

At 1.18 spaces per bedroom, *Talavera Ridge* will provide 0.10 more parking spaces per bedroom than the 1.08 median among the 24 projects. At 304 units, this represents 30 more spaces than the regional norm for post 2000 apartment properties.

| | | Difference to Median | Total Units | Parking Spaces Above Median |
|---|------|----------------------|-------------|-----------------------------|
| Median spaces per bedroom (24 projects) | 1.08 | | | |
| <i>Talavera Ridge</i> ratio per bedroom | 1.18 | 0.10 | 304 | 30.8 |

As summarized below, the planned ratio of 1.18 stalls per bedroom for *Talavera Ridge* is higher than 19 of the 24 surveyed projects (79%).

| PARKING SPACES PER BEDROOM, IN DESCENDING ORDER | | | | | | |
|---|-----------------|-------------|-------------|--------------|--------------|--------------|
| Project | City | Year Built | Total Units | Total Stalls | Total Bdrms. | Stalls/Bdrm. |
| <i>Sterling Ranch</i> | El Dorado Hills | 2004 | 160 | 392 | 248 | 1.58 |
| <i>Winsted at Sunset West</i> | Rocklin | 2001 | 208 | 433 | 288 | 1.50 |
| <i>Granite Creek</i> | Rocklin | 2001 | 80 | 175 | 120 | 1.46 |
| <i>Legends</i> | Folsom | 2000 | 208 | 372 | 288 | 1.29 |
| <i>The Crest at Fair Oaks</i> | Fair Oaks | 2004 | 76 | 138 | 116 | 1.19 |
| <i>Talavera Ridge</i> | Folsom | 2017 | 304 | 524 | 444 | 1.18 |
| <i>Vineyard Gate</i> | Roseville | 2002 | 280 | 556 | 480 | 1.16 |
| <i>Adora TH</i> | Roseville | 2012 | 103 | 199 | 174 | 1.14 |
| <i>Falls at Willow Creek</i> | Folsom | 2002 | 426 | 826 | 730 | 1.13 |
| <i>Willow Springs</i> | Folsom | 2001 | 218 | 409 | 362 | 1.13 |
| <i>Miramonte & Trovas</i> | Sacramento | 2001 | 440 | 752 | 684 | 1.10 |
| <i>Stonelake</i> | Elk Grove | 2004 | 432 | 879 | 800 | 1.10 |
| <i>McKenzie</i> | Sacramento | 2002 | 152 | 285 | 264 | 1.08 |
| <i>Stanford Heights</i> | Rocklin | 2000 | 170 | 386 | 358 | 1.08 |
| <i>Villagio</i> | Sacramento | 2003 | 272 | 417 | 396 | 1.05 |
| <i>The Bridges at Woodcreek Oaks</i> | Roseville | 2000 | 185 | 360 | 346 | 1.04 |
| <i>Broadstone at Strawberry Creek</i> | Sacramento | 2005 | 264 | 491 | 472 | 1.04 |
| <i>Castellino at Laguna West</i> | Elk Grove | 2006 | 120 | 231 | 224 | 1.03 |
| <i>Avanti</i> | Sacramento | 2006 | 216 | 360 | 350 | 1.03 |
| <i>Tuscaro</i> | Sacramento | 2000 | 296 | 486 | 488 | 1.00 |
| <i>Lake Point</i> | Elk Grove | 2004 | 232 | 458 | 464 | 0.99 |
| <i>Broadstone at Stanford Ranch</i> | Rocklin | 2003 | 186 | 295 | 326 | 0.90 |
| <i>Terraces at Stanford Ranch</i> | Rocklin | 2012 | 132 | 284 | 338 | 0.84 |
| <i>Pinnacle at Galleria</i> | Roseville | 2001 | 236 | 302 | 392 | 0.77 |
| <i>Stoneridge</i> | Roseville | 2004 | 230 | 298 | 405 | 0.74 |

REPORTED PARKING ADEQUACY

Since parking ratios alone don't measure parking utilization/need, we queried managers of a representative sampling of projects as to parking adequacy.

- Managers at 10 of the 11 projects in the query sample reported no problems with parking provision.
- Most (70%) of the 10 projects whose managers said that "parking is sufficient" have a lower ratio per bedroom than planned for *Talavera Ridge* (i.e., less parking than 1.18/bedroom), with no reported issues.
- Only one manager of the 11 interviewed reported that parking was inadequate: *Vineyard Gate* (1.16 spaces per bedroom). This appears to be a function of how parking is assigned. Residents get either a carport or an open space, rather than a guaranteed covered space. Optional garages are available for those without a covered space, but cost \$100 per month. The majority of other projects in the query sample provide one free covered space per unit.

| MANAGER COMMENTS ON PARKING ADEQUACY | | | | | |
|--------------------------------------|-----------------|-------------|--------------|---------------|--|
| Name | City | Total Units | Stalls/ Unit | Stalls/ Bdrm. | Response to Query: Is Parking Sufficient? |
| <i>Stoneridge</i> | Roseville | 230 | 1.30 | 0.74 | Nobody is suffering. They can have 2 cars and there is still plenty. |
| <i>Pinnacle at Galleria</i> | Roseville | 236 | 1.28 | 0.77 | Absolutely. Zero complaints. |
| <i>Terraces at Stanford Ranch</i> | Rocklin | 132 | 2.15 | 0.84 | Yes. |
| <i>Broadstone at Stanford Ranch</i> | Rocklin | 186 | 1.59 | 0.90 | Yes, more than enough. |
| <i>Avanti</i> | Sacramento | 216 | 1.67 | 1.03 | Yes. |
| <i>The Bridges at Woodcreek Oaks</i> | Roseville | 185 | 1.95 | 1.04 | Yes. No restrictions on number of vehicles. |
| <i>Adora TH</i> | Roseville | 103 | 1.93 | 1.14 | Fine, no issues. |
| <i>Vineyard Gate</i> | Roseville | 280 | 1.99 | 1.16 | Unfortunately, not enough. All residents get 1 uncovered or covered. [\$100 extra for garage]. |
| <i>Talavera Ridge</i> | Folsom | 304 | 1.72 | 1.18 | |
| <i>The Crest at Fair Oaks</i> | Fair Oaks | 76 | 1.82 | 1.19 | Working out fine; we do have waiting list for garages. |
| <i>Granite Creek</i> | Rocklin | 80 | 2.19 | 1.46 | Yes, parking is sufficient. No waiting list. |
| <i>Sterling Ranch</i> | El Dorado Hills | 160 | 2.45 | 1.58 | Parking is sufficient. |

SITE-SPECIFIC FACTORS AFFECTING PARKING NEED

Talavera Ridge has exceptionally good "walkability," and proximity to public transportation is excellent. Both factors may contribute to two-person households shedding a vehicle.

1) The *Talavera Ridge* site has superb proximity to shopping and services, with 1,000,000+ square feet of retail within less than 0.25 mile, including:

- Bel-Air Grocery and CVS Drug at East Bidwell Street and Broadstone Parkway, 0.2 mile west.
- Whole Foods Market, in Palladio, 0.25 mile south. Other tenants in this "lifestyle" center's 550,000 square feet of retail include a 16-screen cinema, Sports Authority, 10+ restaurants, numerous fashion outlets and services.
- Broadstone Plaza at SWC East Bidwell Street and Broadstone Parkway, within 0.25 mile, contains Home Depot, Total Wine, Ross, Michaels, Old Navy, Pier 1, Ashley Furniture and others, in a 532,000-square-foot center.

2) Proximity to public transportation is excellent.

- The two closest bus stops are within 0.25 mile of the property line (opposite corners of East Bidwell Street and Power Center Drive, just west of Broadstone Parkway); both have benches and all-weather shelters.
- The Folsom Stage Line Route 10 serves the corner of East Bidwell and Broadstone Parkway hourly, from 4:43 a.m. to 7:43 p.m.

- The Historic Folsom Light Rail Station (3.65 miles northwest) is on the Route 10 Line as is the Iron Point Rail Station at 12900 Folsom Boulevard, 3.9 miles southwest of the subject site. The Gold Line Light Rail provides 59-minute service between Folsom and downtown Sacramento. Trains depart every 30 minutes. Weekday service starts at 5:00 a.m. The last nightly train to arrive in Folsom (at 7:22 p.m.) departs downtown Sacramento at 6:23 p.m. Maximum fare is \$6.00 daily; discounts apply for monthly packages, seniors, students, children and the disabled. (NOTE: UberX fare from Broadstone Center to Historic Folsom Station is \$4 to \$6.¹)

CONCLUSION

In light of 1) the proposed mix of 54% 1BR units; 2) higher parking-per-bedroom ratios than regional norms; and 3) this site's superb "walkability" and excellent public transportation availability, it is our professional conclusion that a parking ratio of 1.72 spaces per unit and 1.18 spaces per bedroom will pose no impediment to livability, marketability, or operations at *Talavera Ridge*.

Please call or email with any questions.

Sincerely,

APT MARKET RESEARCH



Annie Gerard
Principal

¹ <https://www.uber.com/cities/sacramento#>

**EXHIBIT 1
POST 2000 GENERAL OCCUPANCY APARTMENT PROJECTS
METRO SACRAMENTO**

| Name | City | Year Built | Total Units | Total Stalls | Stalls/Unit | Unit Mix | | | | | Total Bdrms | Stalls/Bdrm | Parking Type | | |
|---------------------------------------|-----------------|------------|-------------|--------------|-------------|----------|-----|-----|-----|-----|-------------|-------------|--------------|-----------|---------|
| | | | | | | Studio | 1BR | 2BR | 3BR | 4BR | | | Open | Carpports | Garages |
| <i>Sterling Ranch</i> | El Dorado Hills | 2004 | 160 | 392 | 2.45 | 0 | 80 | 72 | 8 | 0 | 248 | 1.58 | 300 | 0 | 92 |
| <i>Castellino at Laguna West</i> | Elk Grove | 2006 | 120 | 231 | 1.93 | 0 | 40 | 56 | 24 | 0 | 224 | 1.03 | | | 64 |
| <i>Lake Point</i> | Elk Grove | 2004 | 232 | 458 | 1.97 | 0 | 40 | 152 | 40 | 0 | 464 | 0.99 | 212 | 200 | 46 |
| <i>Stonelake</i> | Elk Grove | 2004 | 432 | 879 | 2.03 | 0 | 128 | 240 | 64 | 0 | 800 | 1.10 | 255 | 432 | 192 |
| <i>The Crest at Fair Oaks</i> | Fair Oaks | 2004 | 76 | 138 | 1.82 | 0 | 42 | 28 | 6 | 0 | 116 | 1.19 | 52 | 42 | 44 |
| <i>Legends</i> | Folsom | 2000 | 208 | 372 | 1.79 | 0 | 128 | 80 | 0 | 0 | 288 | 1.29 | 168 | 151 | 53 |
| <i>Willow Springs</i> | Folsom | 2001 | 218 | 409 | 1.88 | 0 | 90 | 112 | 16 | 0 | 362 | 1.13 | 138 | 219 | 52 |
| <i>Falls at Willow Creek</i> | Folsom | 2002 | 426 | 826 | 1.94 | 0 | 164 | 220 | 42 | 0 | 730 | 1.13 | 304 | 426 | 96 |
| <i>Broadstone at Stanford Ranch</i> | Rocklin | 2003 | 186 | 295 | 1.59 | 0 | 58 | 116 | 12 | 0 | 326 | 0.90 | 108 | 107 | 80 |
| <i>Winsted at Sunset West</i> | Rocklin | 2001 | 208 | 433 | 2.08 | 0 | 128 | 80 | 0 | 0 | 288 | 1.50 | 173 | 208 | 52 |
| <i>Terraces at Stanford Ranch</i> | Rocklin | 2012 | 132 | 284 | 2.15 | 0 | 20 | 23 | 84 | 5 | 338 | 0.84 | 40 | 0 | 244 |
| <i>Granite Creek</i> | Rocklin | 2001 | 80 | 175 | 2.19 | 0 | 40 | 40 | 0 | 0 | 120 | 1.46 | 67 | 83 | 25 |
| <i>Stanford Heights</i> | Rocklin | 2000 | 170 | 386 | 2.27 | 16 | 10 | 100 | 44 | 0 | 358 | 1.08 | 120 | 174 | 92 |
| <i>Pinnacle at Galleria</i> | Roseville | 2001 | 236 | 302 | 1.28 | 0 | 96 | 124 | 16 | 0 | 392 | 0.77 | 236 | 0 | 66 |
| <i>Stoneridge</i> | Roseville | 2004 | 230 | 298 | 1.30 | 0 | 73 | 139 | 18 | 0 | 405 | 0.74 | 115 | 73 | 110 |
| <i>Adora TH</i> | Roseville | 2012 | 103 | 199 | 1.93 | 0 | 32 | 71 | 0 | 0 | 174 | 1.14 | 25 | | 174 |
| <i>The Bridges at Woodcreek Oaks</i> | Roseville | 2000 | 185 | 360 | 1.95 | 0 | 56 | 97 | 32 | 0 | 346 | 1.04 | 175 | 0 | 185 |
| <i>Vineyard Gate</i> | Roseville | 2002 | 280 | 556 | 1.99 | 0 | 112 | 136 | 32 | 0 | 480 | 1.16 | 249 | 247 | 60 |
| <i>Villagio</i> | Sacramento | 2003 | 272 | 417 | 1.53 | 0 | 148 | 124 | 0 | 0 | 396 | 1.05 | | | |
| <i>Tuscaro</i> | Sacramento | 2000 | 296 | 486 | 1.64 | 0 | 128 | 144 | 24 | 0 | 488 | 1.00 | | | |
| <i>Avanti</i> | Sacramento | 2006 | 216 | 360 | 1.67 | 0 | 108 | 82 | 26 | 0 | 350 | 1.03 | 135 | 180 | 45 |
| <i>Miramonte & Trovas</i> | Sacramento | 2001 | 440 | 752 | 1.71 | 0 | 204 | 228 | 8 | 0 | 684 | 1.10 | 312 | 348 | 92 |
| <i>Broadstone at Strawberry Creek</i> | Sacramento | 2005 | 264 | 491 | 1.86 | 0 | 76 | 168 | 20 | 0 | 472 | 1.04 | | | 73 |
| <i>McKenzie</i> | Sacramento | 2002 | 152 | 285 | 1.88 | 0 | 52 | 88 | 12 | 0 | 264 | 1.08 | 89 | 152 | 44 |
| DOWNTOWN/MIDTOWN | | | | | | | | | | | | | | | |
| <i>16 Powerhouse</i> | Sacramento | 2014 | 50 | 38 | 0.76 | 0 | 16 | 34 | 0 | 0 | 84 | 0.45 | | | |
| <i>Legado de Ravel</i> | Sacramento | 2013 | 84 | 84 | 1.00 | 0 | 60 | 24 | 0 | 0 | 108 | 0.78 | | | |
| <i>Eviva</i> | Sacramento | 2016 | 118 | 133 | 1.13 | 3 | 59 | 56 | 0 | 0 | 174 | 0.76 | | | |
| <i>LINQ (fka Alexan Midtown)</i> | Sacramento | 2010 | 275 | 400 | 1.45 | 27 | 131 | 117 | 0 | 0 | 392 | 1.02 | | | |
| <i>800 J Lofts</i> | Sacramento | 2006 | 225 | 302 | 1.34 | 74 | 57 | 94 | 0 | 0 | 319 | 0.95 | | | |

**EXHIBIT 2
PARKING SPACES PER UNIT
POST 2000 GENERAL OCCUPANCY APARTMENT PROJECTS
METRO SACRAMENTO**

| Name | City | Year Built | Total Units | Total Stalls | Stalls/ Unit | Unit Mix | | | | | Total Bdrms | Stalls/ Bdrm | % Studio & 1BR |
|---------------------------------------|-----------------|-------------|-------------|--------------|-----------------|----------|------------|------------|----------|----------|-------------|-----------------|----------------|
| | | | | | | Studio | 1BR | 2BR | 3BR | 4BR | | | |
| Talavera Ridge (planned) | Folsom | 2017 | 304 | 524 | 1.72 | 0 | 164 | 140 | 0 | 0 | 444 | 1.18 | 54% |
| <i>Pinnacle at Galleria</i> | Roseville | 2001 | 236 | 302 | 1.28 | 0 | 96 | 124 | 16 | 0 | 392 | 0.77 | 41% |
| <i>Stoneridge</i> | Roseville | 2004 | 230 | 298 | 1.30 | 0 | 73 | 139 | 18 | 0 | 405 | 0.74 | 32% |
| <i>Villagio</i> | Sacramento | 2003 | 272 | 417 | 1.53 | 0 | 148 | 124 | 0 | 0 | 396 | 1.05 | 54% |
| <i>Broadstone at Stanford Ranch</i> | Rocklin | 2003 | 186 | 295 | 1.59 | 0 | 58 | 116 | 12 | 0 | 326 | 0.90 | 31% |
| <i>Tuscaro</i> | Sacramento | 2000 | 296 | 486 | 1.64 | 0 | 128 | 144 | 24 | 0 | 488 | 1.00 | 43% |
| <i>Avanti</i> | Sacramento | 2006 | 216 | 360 | 1.67 | 0 | 108 | 82 | 26 | 0 | 350 | 1.03 | 50% |
| <i>Miramonte & Trovas</i> | Sacramento | 2001 | 440 | 752 | 1.71 | 0 | 204 | 228 | 8 | 0 | 684 | 1.10 | 46% |
| <i>Legends</i> | Folsom | 2000 | 208 | 372 | 1.79 | 0 | 128 | 80 | 0 | 0 | 288 | 1.29 | 62% |
| <i>The Crest at Fair Oaks</i> | Fair Oaks | 2004 | 76 | 138 | 1.82 | 0 | 42 | 28 | 6 | 0 | 116 | 1.19 | 55% |
| <i>Broadstone at Strawberry Creek</i> | Sacramento | 2005 | 264 | 491 | 1.86 | 0 | 76 | 168 | 20 | 0 | 472 | 1.04 | 29% |
| <i>McKenzie</i> | Sacramento | 2002 | 152 | 285 | 1.88 | 0 | 52 | 88 | 12 | 0 | 264 | 1.08 | 34% |
| <i>Willow Springs</i> | Folsom | 2001 | 218 | 409 | 1.88 | 0 | 90 | 112 | 16 | 0 | 362 | 1.13 | 41% |
| <i>Castellino at Laguna West</i> | Elk Grove | 2006 | 120 | 231 | 1.93 | 0 | 40 | 56 | 24 | 0 | 224 | 1.03 | 33% |
| <i>Adara TH</i> | Roseville | 2012 | 103 | 199 | 1.93 | 0 | 32 | 71 | 0 | 0 | 174 | 1.14 | 31% |
| <i>Falls at Willow Creek</i> | Folsom | 2002 | 426 | 826 | 1.94 | 0 | 164 | 220 | 42 | 0 | 730 | 1.13 | 38% |
| <i>The Bridges at Woodcreek Oaks</i> | Roseville | 2000 | 185 | 360 | 1.95 | 0 | 56 | 97 | 32 | 0 | 346 | 1.04 | 30% |
| <i>Lake Point</i> | Elk Grove | 2004 | 232 | 458 | 1.97 | 0 | 40 | 152 | 40 | 0 | 484 | 0.99 | 17% |
| <i>Vineyard Gate</i> | Roseville | 2002 | 280 | 556 | 1.99 | 0 | 112 | 136 | 32 | 0 | 480 | 1.16 | 40% |
| <i>Stonelake</i> | Elk Grove | 2004 | 432 | 879 | 2.03 | 0 | 128 | 240 | 64 | 0 | 800 | 1.10 | 30% |
| <i>Winsted at Sunset West</i> | Rocklin | 2001 | 208 | 433 | 2.08 | 0 | 128 | 80 | 0 | 0 | 288 | 1.50 | 62% |
| <i>Terraces at Stanford Ranch</i> | Rocklin | 2012 | 132 | 284 | 2.15 | 0 | 20 | 23 | 84 | 5 | 338 | 0.84 | 15% |
| <i>Granite Creek</i> | Rocklin | 2001 | 80 | 175 | 2.19 | 0 | 40 | 40 | 0 | 0 | 120 | 1.46 | 50% |
| <i>Stanford Heights</i> | Rocklin | 2000 | 170 | 386 | 2.27 | 16 | 10 | 100 | 44 | 0 | 358 | 1.08 | 15% |
| <i>Sterling Ranch</i> | El Dorado Hills | 2004 | 160 | 392 | 2.45 | 0 | 80 | 72 | 8 | 0 | 248 | 1.58 | 50% |
| MEAN SPACES PER UNIT | | | | | 1.87 | | | | | | | | |
| MEDIAN SPACES PER UNIT | | | | | 1.90 | | | | | | | | |

**EXHIBIT 3
PARKING SPACES PER BEDROOM
POST 2000 GENERAL OCCUPANCY APARTMENT PROJECTS
METRO SACRAMENTO**

| Name | City | Year Built | Total Units | Total Stalls | Stalls/Unit | Unit Mix | | | | | Total Bdrms. | Stalls/Bdrm. | % Studio & 1BR |
|---------------------------------------|-----------------|-------------|-------------|--------------|-------------|----------|------------|------------|----------|------------|--------------|--------------|----------------|
| | | | | | | Studio | 1BR | 2BR | 3BR | 4BR | | | |
| Talavera Ridge (planned) | Folsom | 2017 | 304 | 524 | 1.72 | 0 | 164 | 140 | 0 | 444 | 1.18 | 54% | |
| <i>Stoneridge</i> | Roseville | 2004 | 230 | 298 | 1.30 | 0 | 73 | 139 | 18 | 0 | 405 | 0.74 | 32% |
| <i>Pinnacle at Galleria</i> | Roseville | 2001 | 236 | 302 | 1.28 | 0 | 96 | 124 | 16 | 0 | 392 | 0.77 | 41% |
| <i>Terraces at Stanford Ranch</i> | Rocklin | 2012 | 132 | 284 | 2.15 | 0 | 20 | 23 | 84 | 5 | 338 | 0.84 | 15% |
| <i>Broadstone at Stanford Ranch</i> | Rocklin | 2003 | 186 | 295 | 1.59 | 0 | 58 | 116 | 12 | 0 | 326 | 0.90 | 31% |
| <i>Lake Point</i> | Elk Grove | 2004 | 232 | 458 | 1.97 | 0 | 40 | 152 | 40 | 0 | 464 | 0.99 | 17% |
| <i>Tuscaro</i> | Sacramento | 2000 | 296 | 486 | 1.64 | 0 | 128 | 144 | 24 | 0 | 488 | 1.00 | 43% |
| <i>Avanti</i> | Sacramento | 2006 | 216 | 360 | 1.67 | 0 | 108 | 82 | 26 | 0 | 350 | 1.03 | 50% |
| <i>Castellino at Laguna West</i> | Elk Grove | 2006 | 120 | 231 | 1.93 | 0 | 40 | 56 | 24 | 0 | 224 | 1.03 | 33% |
| <i>Broadstone at Strawberry Creek</i> | Sacramento | 2005 | 264 | 491 | 1.86 | 0 | 76 | 168 | 20 | 0 | 472 | 1.04 | 29% |
| <i>The Bridges at Woodcreek Oaks</i> | Roseville | 2000 | 185 | 360 | 1.95 | 0 | 56 | 97 | 32 | 0 | 346 | 1.04 | 30% |
| <i>Villagio</i> | Sacramento | 2003 | 272 | 417 | 1.53 | 0 | 148 | 124 | 0 | 0 | 396 | 1.05 | 54% |
| <i>Stanford Heights</i> | Rocklin | 2000 | 170 | 386 | 2.27 | 16 | 10 | 100 | 44 | 0 | 358 | 1.08 | 15% |
| <i>McKenzie</i> | Sacramento | 2002 | 152 | 285 | 1.88 | 0 | 52 | 88 | 12 | 0 | 264 | 1.08 | 34% |
| <i>Stonelake</i> | Elk Grove | 2004 | 432 | 879 | 2.03 | 0 | 128 | 240 | 64 | 0 | 800 | 1.10 | 30% |
| <i>Miramonte & Trovas</i> | Sacramento | 2001 | 440 | 752 | 1.71 | 0 | 204 | 228 | 8 | 0 | 684 | 1.10 | 46% |
| <i>Willow Springs</i> | Folsom | 2001 | 218 | 409 | 1.88 | 0 | 90 | 112 | 16 | 0 | 362 | 1.13 | 41% |
| <i>Falls at Willow Creek</i> | Folsom | 2002 | 426 | 826 | 1.94 | 0 | 164 | 220 | 42 | 0 | 730 | 1.13 | 38% |
| <i>Adora TH</i> | Roseville | 2012 | 103 | 199 | 1.93 | 0 | 32 | 71 | 0 | 0 | 174 | 1.14 | 31% |
| <i>Vineyard Gate</i> | Roseville | 2002 | 280 | 556 | 1.99 | 0 | 112 | 136 | 32 | 0 | 480 | 1.16 | 40% |
| <i>The Crest at Fair Oaks</i> | Fair Oaks | 2004 | 76 | 138 | 1.82 | 0 | 42 | 28 | 6 | 0 | 116 | 1.19 | 55% |
| <i>Legends</i> | Folsom | 2000 | 208 | 372 | 1.79 | 0 | 128 | 80 | 0 | 0 | 288 | 1.29 | 62% |
| <i>Granite Creek</i> | Rocklin | 2001 | 80 | 175 | 2.19 | 0 | 40 | 40 | 0 | 0 | 120 | 1.46 | 50% |
| <i>Winsted at Sunset West</i> | Rocklin | 2001 | 208 | 433 | 2.08 | 0 | 128 | 80 | 0 | 0 | 288 | 1.50 | 62% |
| <i>Sterling Ranch</i> | El Dorado Hills | 2004 | 160 | 392 | 2.45 | 0 | 80 | 72 | 8 | 0 | 248 | 1.58 | 50% |
| MEAN SPACES PER BEDROOM | | | | | | | | | | | 1.10 | | |
| MEDIAN SPACES PER BEDROOM | | | | | | | | | | | 1.08 | | |

**The Parkway Apartments Project
Final Initial Study and Mitigated Negative Declaration**

ATTACHMENT B

Attachment B – Environmental Noise Assessment

ENVIRONMENTAL NOISE ASSESSMENT

The Parkway Apartments Folsom, California

Prepared For

**ECORP Consulting, Inc.
2525 Warren Drive
Rocklin, CA 95677**

Prepared By

**RCH Group
11060 White Rock Road Suite 150-A
Rancho Cordova, CA**

March 2017



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Introduction

RCH Group (RCH) has conducted this environmental noise assessment for The Parkway Apartments (Proposed Project). The Proposed Project is located at the southwest corner of Blue Ravine Road and Oak Avenue Parkway, in the City of Folsom, California (see **Figure 1**), and would consist of construction and operation of a 72-unit apartment complex. The site is approximately 10 acres. The site is undeveloped and no demolition activities are necessary.

Figure 2 is an aerial map showing the relation of the site to adjacent land uses and roads.

This report analyzes the noise impacts from the Proposed Project and is prepared in a format to answer the noise questions identified in the Initial Study Environmental Checklist Form in Appendix G of the *CEQA Guidelines*. This report provides an overview of existing noise levels measured at the site, local noise regulatory framework, and an analysis of potential noise impacts that would result from construction and operation of the Proposed Project.

Noise Evaluation

Noise impacts are evaluated by estimating noise levels in the area and determining the noise compatibility of the Proposed Project. The analysis considers existing noise levels at the site and noise impacts of the Proposed Project.

Noise Thresholds of Significance

Noise impacts would be significant if:

- Standards contained in the Noise Element or City Noise Ordinance would be exceeded.
- Operational changes would increase ambient noise levels (Ldn, CNEL, or hourly L_{eq}) by 5 dB or more¹.
- Construction would involve activities that could cause substantial vibration at sensitive structures.
- Construction would conflict with the City of Folsom construction hours.
- The project would expose residents to excessive aircraft noise.

¹ The Federal Interagency Committee on Noise (FICON) developed noise guidance to be used for the assessment of project-generated increases in noise levels that take into account the ambient noise level. An increase of 5 dB or greater would typically be considered to result in increased levels of annoyance where existing noise levels are less than 60 dB. Within areas where the ambient noise level ranges from 60 to 65 dB, increased levels of annoyance would be anticipated at increases of 3 dB or greater (FICON, 2000).

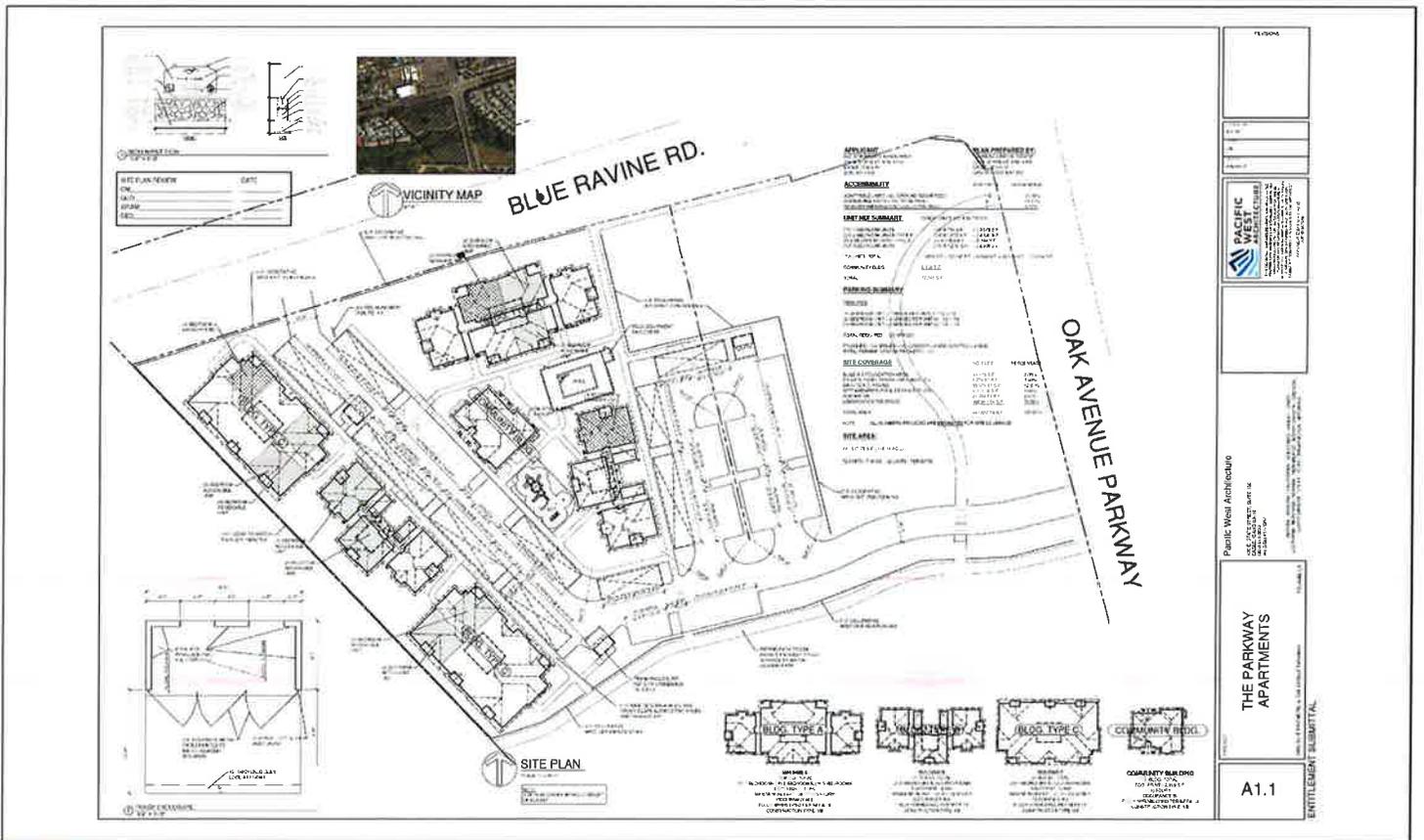
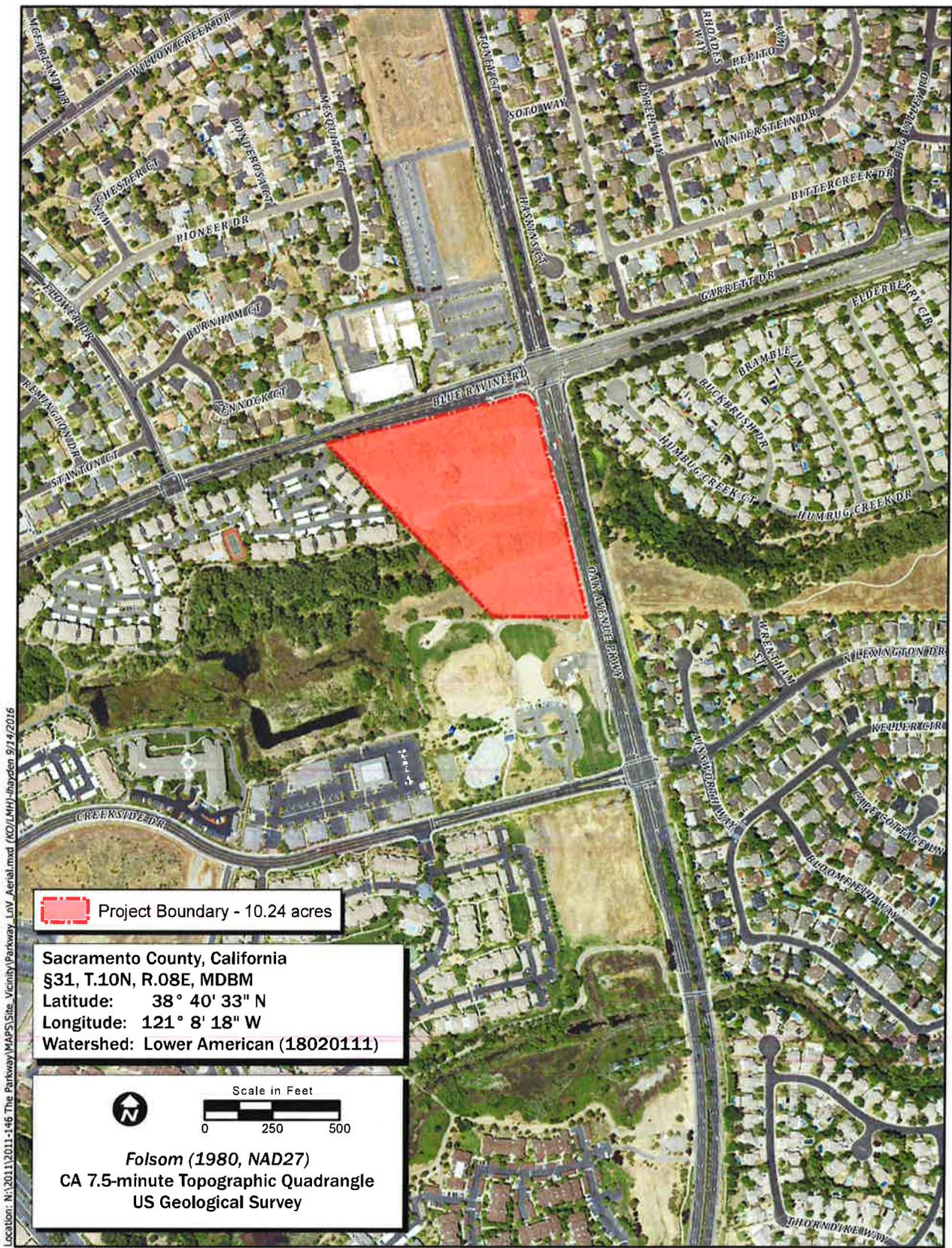


Figure 1. Site Plan
 2016-157 Folsom Parkway Parcel A Apartment Complex



Location: N:\2011\2011-146 The Parkway\MAP5\Site_Vicinity\Parkway_Liv_Aerial.mxd (K0\LMH)-hayden 9/14/2016

Map Date: 9/13/2016
 Service Layer Credits: Copyright © 2015 DeLorme



Figure 2. Project Location
 2011-146 The Parkway

Noise Analysis

CEQA Guidelines Appendix G Environmental Checklist

| XII. NOISE -- Would the project result in: | Potentially Significant Impact | Less than Significant With Mitigation Incorporated | Less than Significant Impact | No Impact |
|---|--------------------------------|--|------------------------------|-----------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | | X | | |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | | | X | |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | | | X | |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | | | X | |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | | | | X |
| f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | | | | X |

a) *Would the Proposed Project expose persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?* **Less-than-Significant Impact with Mitigation.**

Noise Descriptors

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound pressure level has become the most common descriptor used to characterize the “loudness” of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Decibels are measured using different scales, and it has been found that A-weighting of sound levels best reflects the human ear’s reduced sensitivity to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. All references to decibels (dB) in this report will be A-weighted unless noted otherwise.

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are the equivalent A-weighted sound level over a given time period (Leq)²; average day-night 24-hour average sound level (Ldn)³ with a nighttime increase of 10 dB to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL)⁴, also a 24-hour average that includes both an evening and a nighttime sensitivity weighting.

Table 1 identifies decibel levels for common sounds heard in the environment.

Table 1: Typical Noise Levels

| Noise Level (dB) | Outdoor Activity | Indoor Activity |
|------------------|---|---|
| 90+ | Gas lawn mower at 3 feet, jet flyover at 1,000 feet | Rock Band |
| 80-90 | Diesel truck at 50 feet | Loud television at 3 feet |
| 70-80 | Gas lawn mower at 100 feet, noisy urban area | Garbage disposal at 3 feet, vacuum cleaner at 10 feet |
| 60-70 | Commercial area | Normal speech at 3 feet |
| 40-60 | Quiet urban daytime, traffic at 300 feet | Large business office, dishwasher next room |
| 20-40 | Quiet rural, suburban nighttime | Concert hall (background), library, bedroom at night |
| 10-20 | | Broadcast / recording studio |
| 0 | Lowest threshold of human hearing | Lowest threshold of human hearing |

Source: (modified from Caltrans Technical Noise Supplement, 1998)

Noise Attenuation

Stationary point sources of noise, including construction equipment, attenuate (lessen) at a rate of 6 to 7.5 dB per doubling of distance from the source, depending on ground absorption. Soft sites attenuate at 7.5 dB per doubling because they have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. Hard sites have reflective surfaces (e.g., parking lots or smooth bodies of water) and therefore have less attenuation (6.0 dB per doubling). A street or roadway with moving vehicles (known as a “line” source), would typically attenuate at a lower rate, approximately 3 to 4.5 dB each time the distance doubles

²The Equivalent Sound Level (Leq) is a single value of a constant sound level for the same measurement period duration, which has sound energy equal to the time-varying sound energy in the measurement period.

³Ldn is the day-night average sound level that is equal to the 24-hour A-weighted equivalent sound level with a 10-decibel penalty applied to night between 10:00 p.m. and 7:00 a.m.

⁴CNEL is the average A-weighted noise level during a 24-hour day, obtained by addition of 5 decibels in the evening from 7:00 to 10:00 p.m., and an addition of a 10-decibel penalty in the night between 10:00 p.m. and 7:00 a.m.

from the source, which also depends on ground absorption (CalTrans, 1998). Physical barriers located between a noise source and the noise receptor, such as berms or sound walls, will increase the attenuation that occurs by distance alone.

Regulatory Framework

State Guidelines

State Land Use Compatibility Standards for Community Noise are provided in the State of California General Plan Guidelines. The guidelines indicate that a Community Noise Exposure up to 65 (Ldn or CNEL) is Normally Acceptable for Multi-Family Residential, and a Community Noise Exposure up to 70 (Ldn or CNEL) is Conditionally Acceptable (City of Folsom, 2014).

General Plan Noise Element

The Noise Element of the City of Folsom has the same compatibility standards for multi-family residential as the State (described above).

The Noise Element of the City of Folsom General Plan contains criteria for stationary noise sources as well as transportation noise sources. The Noise Element contains an interior hourly maximum noise standard of 45 dB for enclosed sleeping areas of residences to ensure that noise sources do not interfere with sleep.

According to Policy 30.5, for noise due to traffic on public roadways, railroad line operations, and aircraft:

“New development of residential or other noise sensitive land uses will not be permitted in noise impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels to 60 dB Ldn/CNEL or less in outdoor activity areas and interior noise levels to 45 dB Ldn/CNEL or less. Where it is not possible to reduce exterior noise due to these sources to 60 dB Ldn/CNEL or less by incorporating a practical application of the best available noise reduction technology, an exterior noise level of up to 65 dB Ldn/CNEL will be allowed. Under no circumstances will interior noise levels be permitted to exceed 45 dB Ldn/CNEL with the windows and doors closed.”

Noise Ordinance

In the Noise Ordinance, the City of Folsom has established a noise policy on all construction projects within or near residential areas. Construction noise is allowed from 7:00 a.m. to 6:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on weekends.

Existing Noise Sources and Levels

To quantify existing ambient noise levels, RCH group conducted two long-term (72-hour) and three short-term (10-minute) noise measurements at the Proposed Project site. Noise measurements were made using Metrosonics db308 Sound Level Meters calibrated before and after the measurements. To measure existing 24-hour noise levels at the project site, noise meters were placed at two locations on the project site. One meter was placed 80 feet from the centerline of Blue Ravine Road (Site 1). Another meter was placed on the northwest perimeter of the project site, 290 south of the centerline of Blue Ravine Road adjacent to an existing residential complex (Site 2). Additional short-term measurements were conducted at the site at Sites 1 and 2 as well as the eastern perimeter (Site 3, 80 feet west of the Oak Avenue Parkway centerline and adjacent to the park). Site 3 is in close proximity to a bike path, and cyclists, skateboarders, and pedestrians were observed in the vicinity.

The noise measurements are summarized in **Table 2** below. The Noise Appendix includes 24-hour noise plots of the data. The main source of noise in the vicinity of the proposed multi-family apartments was traffic noise from Blue Ravine Road. Additional noise sources included traffic on Oak Avenue Parkway. A City Fire Station is located northeast of the project site on the northeast corner of the intersection of Blue Ravine and Oak Avenue Parkway. No sirens sounded during measurements.

Table 2: Existing Noise Measurements

| Location | Time Period | Noise Levels (dB) | Noise Sources |
|--|--|--|--|
| Site 1: 80 feet south of the Blue Ravine Road centerline | November 3, 12:00 a.m. through November 5, 11:59 p.m. 2016 Thursday - Saturday 72-hour measurement | Hourly Leq's ranged from 50-66 CNELs: 66, 67, 66 | Unattended noise measurements do not specifically identify noise sources |
| Site 1: 80 feet south of the Blue Ravine Road centerline | Wednesday November 2, 2016 4:47 p.m. to 4:57 p.m. | 5-minute Leq's: 68, 68 | Traffic on Blue Ravine Road is 65-73 dB. Background level is 54 dB. Mostly cars, hardly any trucks. |
| Site 2: Southwestern perimeter of the Proposed Project Site, 390 feet south of the Blue Ravine Road centerline | November 3, 12:00 a.m. through November 5, 11:59 p.m. 2016 Thursday - Saturday 72-hour measurement | Hourly Leq's ranged from: 44-61 CNELs: 57, 59, 56 | Unattended noise measurements do not specifically identify noise sources |
| Site 2: Southwestern perimeter of the Proposed Project Site, 390 feet south of the Blue Ravine Road centerline | Wednesday November 9, 2016 3:25 p.m. to 3:35 p.m. | 5-minute Leq's: 54, 53 | Traffic on Blue Ravine Road is 50-60 dB. (Motorcycle 65 dB). Background level is 42 dB. Quiet background noises included the hum of transmission lines and bird calls. |
| Site 3: 80 feet west of the Oak Avenue Parkway centerline | Wednesday November 9, 2016 3:45 p.m. to 3:55 p.m. | 5-minute Leq's: 62, 61 | Traffic on Oak Avenue Parkway is 60-70 dB. (Car horn 75 dB). Background level is 48 dB. Quiet background noises included the hum of transmission lines and bird calls. |

Source: RCH Group, 2016

Existing Sensitive Receptors

Noise sensitive receptors (land uses associated with indoor and/or outdoor activities that may be subject to stress and/or significant interference from noise) typically include residential dwellings, hotels, motels, hospitals, nursing homes, educational facilities, and libraries. The nearest sensitive receptors to the project site are existing multi-family apartment homes adjacent to the western border of the project site. There are also residences to the northwest and northeast across Blue Ravine Road and residences to the east and southeast across Oak Ave Parkway. In addition, the Oak Hills Church is to the north of the project site, on the other side of Blue Ravine Road.

Traffic Noise Impacts

As discussed above, the predominant noise sources at the project site is traffic noise.

As shown in **Table 2**, the 24-hour traffic noise levels 80 feet south of the Blue Ravine Road centerline (Site 1) ranged from 66 - 67 dB CNEL. The 24-hour noise level at the southwestern perimeter of the project site (Site 2) ranged from 56 - 59 dB CNEL.

The Noise Element of the General Plan contains noise contours for this region, which provide distances at which a reasonable level of noise can be expected. The City has established a baseline comfortable noise level of 60 dB for residential uses. The 60 dB contour for Blue Ravine Road is 198 feet from the centerline of the street. This indicates that the portion of the Proposed Project within 170 feet of Blue Ravine Road would have noise levels above the 60 dB level set forth in the Noise Element for outdoor activity areas. This would be a potentially significant impact on the pool area, which is about 150 feet from Blue Ravine Road. This would be a potentially significant impact.

The following mitigation measure is recommended to minimize noise impacts from traffic noise along Blue Ravine Road.

Mitigation Measure NOI-1:

The Proposed Project shall include a six-foot (or higher) solid masonry noise barrier (relative to building floors) on the western half of the site with frontage on Blue Ravine Road (except for the entrance/exit to the project site); or

The Proposed Project shall include a five-foot (or higher) solid masonry noise barrier around the northern, western and eastern perimeter of the proposed pool activity area.

The implementation of Mitigation Measure NOI-1 would reduce future Blue Ravine Road traffic noise by approximately 5 dB. As a result, future traffic noise levels at outdoor activity areas closest to Blue Ravine Road are predicted to be approximately 60 dB Ldn, and would comply with the City of Folsom 60 DB Ldn criteria, reducing noise impacts to a less-than-significant level.

Interior Noise Level Impacts

The 24-hour noise level 80 feet south of the centerline of Blue Ravine Road (Site 1), approximately the same distance from Blue Ravine Road as the closest proposed building facades of the proposed project is 66 to 67 dB CNEL. Typical residential construction consistent with the Uniform Building Code (UBC) will provide an exterior-to-interior noise level reduction of no less than 25 dB provided that exterior windows and doors are closed (Bollard Acoustical Consultants Inc., 2005). Therefore, exterior traffic noise exposure on the project site would need to exceed 70 dB CNEL to possibly produce interior noise levels in excess of

45 dB CNEL. Assuming typical residential construction, exterior traffic noise exposure of 67 dB CNEL at the closest proposed building facades to Blue Ravine Road may produce interior traffic noise levels of up to 42 dB CNEL. Therefore, the Proposed Project would be below the City of Folsom's interior noise standard of 45 dB CNEL. No noise-mitigating building construction improvements would be needed for the Proposed Project.

Construction Noise Impacts

Construction activities would require the use of numerous pieces of noise-generating equipment, such as excavating machinery (e.g., backhoes, excavators, front loaders, etc.) and other construction equipment (e.g., compactors, pavers, concrete mixers, trucks, etc.).

The noise levels generated by construction equipment would vary greatly depending upon factors such as the type and specific model of the equipment, the operation being performed, the condition of the equipment and the prevailing wind direction. The maximum noise levels for various types of construction equipment that could be used during project construction are provided in **Table 3** below. Maximum noise levels generated by construction equipment used for the Proposed Project would range from 74 to 89 dB L_{max} at a distance of 50 feet. **Table 4** gives average typical construction activity noise levels at 50 feet.

Table 3: Typical Noise Levels from Construction Equipment (L_{max})

| Construction Equipment | Noise Level (dB, L_{max} at 50 feet) |
|-------------------------------|---|
| Dump Truck | 76 |
| Air Compressor | 78 |
| Backhoe | 78 |
| Dozer | 82 |
| Compactor (ground) | 83 |
| Crane | 81 |
| Excavator | 81 |
| Flat Bed Truck | 74 |
| Paver | 77 |
| Grader | 85 |
| Compressor (Air) | 78 |
| Generator | 81 |
| Roller | 80 |
| Vibratory Concrete Mixer | 80 |
| Concrete Mixer Truck | 79 |
| Jackhammer | 89 |
| Front End Loader | 79 |

Notes: L_{max} = maximum sound level

Source: *Federal Highway Administration (FHWA) Roadway Construction Noise Model User's Guide, 2006.*

Table 4: Typical Construction Activities Noise Levels

| Construction Phase | Noise Level (dB Leq at 50 feet) |
|--------------------|---------------------------------|
| Ground Clearing | 83 |
| Excavation | 88 |
| Foundations | 81 |
| Erection | 81 |
| Finishing | 88 |

Notes: Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

Leq = equivalent sound level

Source: U.S. Environmental Protection Agency, Legal Compilation, 1973

Project construction would result in a temporary increase in ambient noise levels in the vicinity of the Proposed Project. The closest sensitive receptors to the project site are approximately 50 feet from the closest location where construction would occur on the project site. At a distance of 50 feet, maximum noise levels from construction equipment would be 74 to 89 dB. Construction noise levels would be less than this estimate most of the time and would fluctuate throughout the day because equipment would not be in use at one location for an extended period of time.

Project construction would comply with the City of Folsom construction noise guidelines set forth in the Noise Ordinance that allow construction noise from 7:00 a.m. to 6:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on weekends. Construction activities and associated worker trips would occur within the allowable hours contained in the City of Folsom construction noise guidelines. Since construction activities would comply with the City of Folsom construction hours, construction noise would result in a **less-than-significant impact**.

Operational Noise Impacts

After construction, impacts from the Proposed Project would include any noise generated by the residences that would affect surrounding land uses. In general, residences are one of the quietest land uses (other than open space), and noise from the residences would be considered compatible with the surrounding residences. Any permanent increase in ambient noise levels in the project vicinity would not be substantially greater than existing levels without the project would result in a less-than-significant noise increase.

The primary source of operational noise from the Proposed Project would be new vehicle trips from project residents. Project-generated traffic could result in noise increases along roadway segments in the Proposed Project area. Due to the high traffic levels on Blue Ravine Road and Oak Avenue Parkway, traffic noise from the Proposed Project would not increase noise levels more than 1 dB at any all location. Persons would not be exposed to noise levels in excess of applicable standards. The noise impact would be **less than significant**.

*b) Would the Proposed Project exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? **Less-than-Significant Impact***

Construction operations have the potential to result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. The ground vibration levels associated with various types of construction equipment are summarized in **Table 5**. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effects of ground vibration may be imperceptible at the lowest levels, low rumbling sounds and detectable vibrations at moderate levels, and slight damage to nearby structures at the highest levels.

At the highest levels of vibration, damage to structures is primarily architectural (e.g., loosening and cracking of plaster or stucco coatings) and rarely results in structural damage. For most structures, a peak particle velocity (ppv) threshold of 0.5 inch per second or less is sufficient to avoid structural damage. The Federal Transit Administration recommends a threshold of 0.5 ppv for residential and commercial structures, 0.25 ppv for historic buildings and archaeological sites, and 0.2 ppv for non-engineered timber and masonry buildings (FTA 2006).

Table 5: Representative Vibration Source Levels for Construction Equipment

| Equipment | | Peak Particle Velocity at 25 Feet (in/sec) | Peak Particle Velocity at 50 feet |
|----------------------|-------------|--|-----------------------------------|
| Pile Driver (impact) | upper range | 1.518 | 0.537 |
| | typical | 0.644 | 0.228 |
| Pile Driver (sonic) | upper range | 0.734 | 0.260 |
| | typical | 0.170 | 0.060 |
| Vibratory Roller | | 0.210 | 0.074 |
| Large Bulldozer | | 0.089 | 0.031 |
| Loaded Trucks | | 0.076 | 0.027 |
| Jackhammer | | 0.035 | 0.012 |
| Small Bulldozer | | 0.003 | 0.001 |

Source: Federal Transit Administration, 2006.

Note: Vibration levels at 50 feet were calculated using the equation provided by FTA that may be used to estimate vibration at different distances based on a reference ppv at 25 feet for various construction equipment.

The Proposed Project would not involve the use of any equipment or processes that would result in potentially significant levels of ground vibration (i.e., pile drivers that could be above 0.5 ppv). The closest structures to the Proposed Project site are approximately 50 feet away. As shown in **Table 5**, the predicted vibration levels from vibratory rollers, bulldozers, loaded trucks, and jackhammers at a distance of 50 feet would not exceed the 0.5 ppv threshold for residential and commercial structures. It is assumed that pile drives would not be used for construction of the Proposed Project. Vibrational impacts from construction would be **less than significant**.

*c) Would the Proposed Project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? **Less-than-Significant Impact***

As discussed in a) above, the primary source of noise affecting the area would be from existing and cumulative traffic increases not related to this Proposed Project. Traffic from the Proposed Project would increase noise levels less than 1 dB in all locations. Permanent noise impacts would be **less than significant**.

*d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? **Less-than-Significant Impact***

Temporary Construction Noise

Construction activities would include site grading, clearing and excavation work associated with site preparation. The on-site equipment required for construction activities are expected to include excavators, graders, and haul trucks, amongst other construction equipment. According to the United States Environmental Protection Agency (U.S. EPA, 1971), the noise levels of primary concern are often associated with the site preparation phase because of the on-site equipment used for clearing, grading, and excavation. Typical equipment noise levels can range from 78 to 85 dB at 50 feet, as shown in **Table 3**. Pile driver noise can reach 101 dB, but should not be needed for the Proposed Project. Sensitive receptors surrounding the Proposed Project site could be exposed to increased levels of noise during construction.

The City of Folsom Noise Ordinance exempts construction operations that occur between 7:00 a.m. and 6:00 p.m., Monday through Friday, and between 8:00 a.m. and 5:00 p.m. on Saturdays and Sundays, from the applicable noise standards. However, if construction operations were to occur during the noise-sensitive hours, the applicable noise standards could potentially be exceeded at the aforementioned sensitive receptors surrounding the project site. However, because the City has determined that all construction within the City limits must comply with the City's Noise Ordinance, nighttime construction activities would not occur and construction noise associated with use of on-site equipment during the construction phases would be **less than significant**.

*e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? **No Impact***

The project site is not located within an area covered by an airport land use plan or within two miles of a public or public use airport. Development on the site would not expose people working or residing at the project site to excessive airport noise levels and **no impact** would occur.

*f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? **No Impact***

There are no private airstrips located near the project site. The Proposed Project would not increase onsite exposure to aircraft noise. Thus, **no impact** would occur.

References

- Bollard Acoustical Consultants, Inc., 2005. Environmental Noise Assessment, PFE/Walerga Mixed-Use Development. August 18, 2005
- California Department of Transportation (Caltrans), Technical Noise Supplement, 1998.
- California Department of Transportation (Caltrans), 1998. *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects*, October 1998.
- City of Folsom, 2014. General Plan Noise Element, April 2014.
- Federal Highway Administration (FHWA), 2000. *Noise Barrier Design Handbook*, February 2000.
- Federal Highway Administration (FHWA), 2006. *Roadway Construction Noise Model User's Guide*, 2006.
- Federal Interagency Committee on Noise (FICON), 2000. *Discussion of Methodologies of Measuring Noise Impact*, October 22, 2000.
- Federal Transit Administration (FTA), 2006. *Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06)*, 2006.
- U.S. Environmental Protection Agency, 1973. *Legal Compilation*, 1973.

The Parkway Apartments

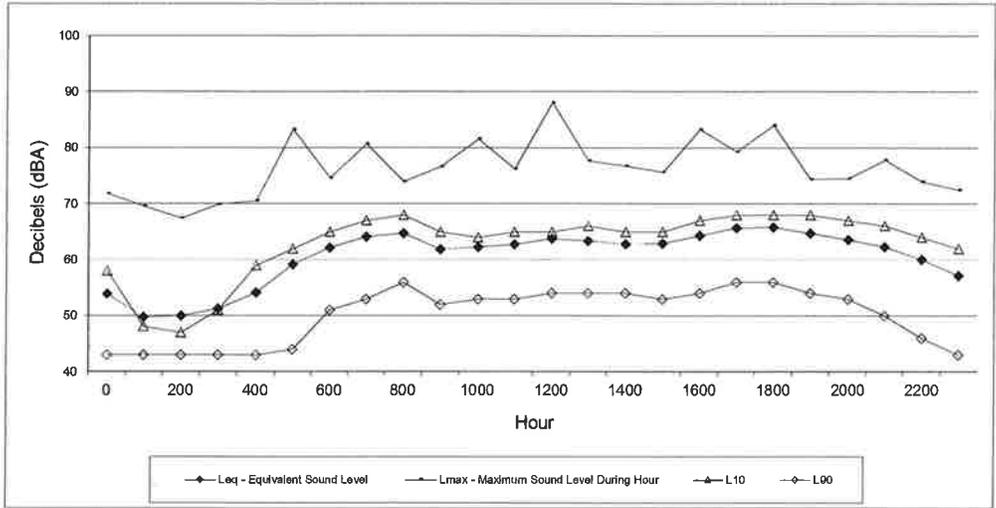
Noise Appendix

Site 1 – 24-Hour Noise Plots (3 pages)

Site 2 – 24-Hour Noise Plots (3 pages)

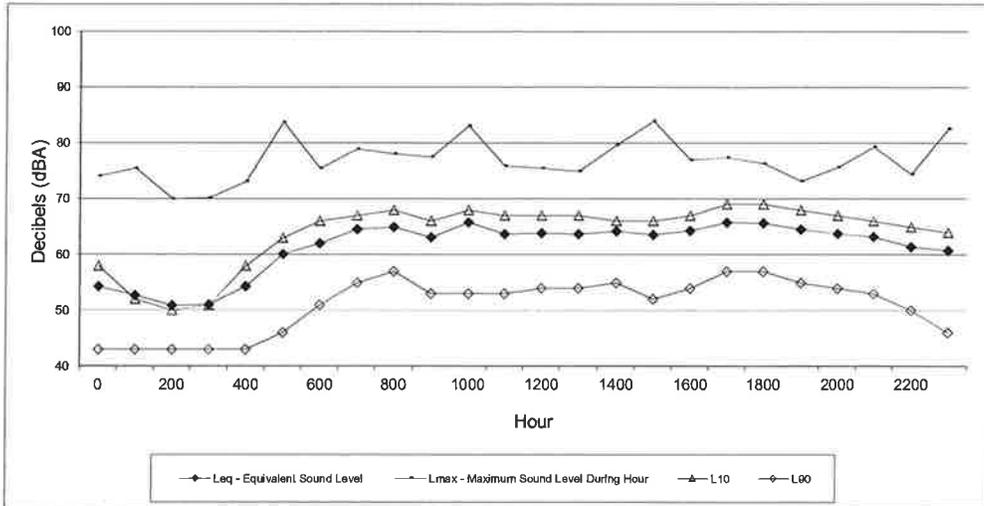
Noise Measurement Locations Figure





Site 1: 80 ft south of Blue Ravine Rd
Thursday November 3, 2016

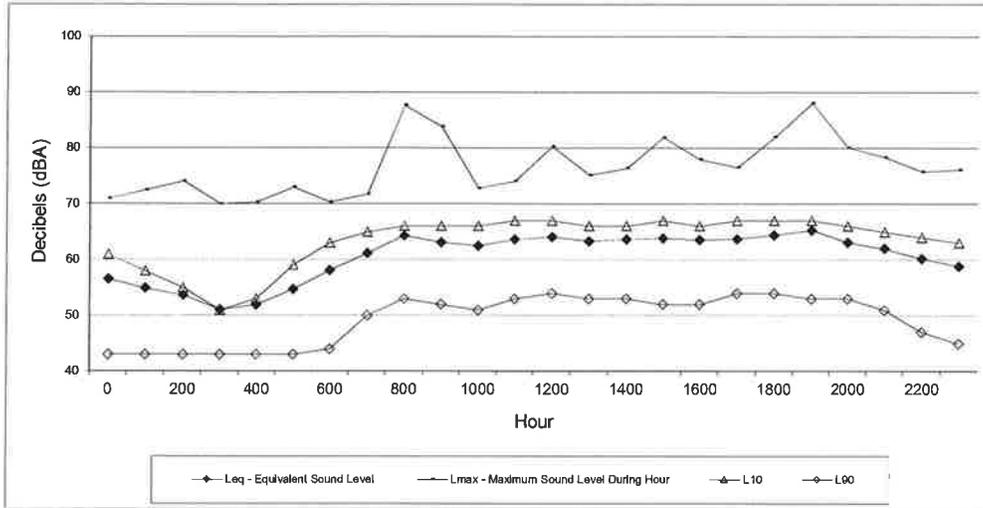
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|------|------------------------------|--|-----|-----|
| 0 | 54 | 72 | 58 | 43 |
| 100 | 50 | 70 | 48 | 43 |
| 200 | 50 | 67 | 47 | 43 |
| 300 | 51 | 70 | 51 | 43 |
| 400 | 54 | 71 | 59 | 43 |
| 500 | 59 | 83 | 62 | 44 |
| 600 | 62 | 75 | 65 | 51 |
| 700 | 64 | 81 | 67 | 53 |
| 800 | 65 | 74 | 68 | 56 |
| 900 | 62 | 77 | 65 | 52 |
| 1000 | 62 | 82 | 64 | 53 |
| 1100 | 63 | 76 | 65 | 53 |
| 1200 | 64 | 88 | 65 | 54 |
| 1300 | 63 | 78 | 66 | 54 |
| 1400 | 63 | 77 | 65 | 54 |
| 1500 | 63 | 76 | 65 | 53 |
| 1600 | 64 | 83 | 67 | 54 |
| 1700 | 66 | 79 | 68 | 56 |
| 1800 | 66 | 84 | 68 | 56 |
| 1900 | 65 | 74 | 68 | 54 |
| 2000 | 64 | 75 | 67 | 53 |
| 2100 | 62 | 78 | 66 | 50 |
| 2200 | 60 | 74 | 64 | 46 |
| 2300 | 57 | 73 | 62 | 43 |



Site 1: 80 ft south of Blue Ravine Rd
Friday November 4, 2016

| Hour | Leq - Equivalent Sound Level | Lmax - Maximum Sound Level During Hour | L10 | L90 |
|------|------------------------------|--|-----|-----|
| 0 | 54 | 74 | 58 | 43 |
| 100 | 53 | 76 | 52 | 43 |
| 200 | 51 | 70 | 50 | 43 |
| 300 | 51 | 70 | 51 | 43 |
| 400 | 54 | 73 | 58 | 43 |
| 500 | 60 | 84 | 63 | 46 |
| 600 | 62 | 76 | 66 | 51 |
| 700 | 65 | 79 | 67 | 55 |
| 800 | 65 | 78 | 68 | 57 |
| 900 | 63 | 78 | 66 | 53 |
| 1000 | 66 | 83 | 68 | 53 |
| 1100 | 64 | 76 | 67 | 53 |
| 1200 | 64 | 76 | 67 | 54 |
| 1300 | 64 | 75 | 67 | 54 |
| 1400 | 64 | 80 | 66 | 55 |
| 1500 | 64 | 84 | 66 | 52 |
| 1600 | 64 | 77 | 67 | 54 |
| 1700 | 66 | 77 | 69 | 57 |
| 1800 | 66 | 76 | 69 | 57 |
| 1900 | 65 | 73 | 68 | 55 |
| 2000 | 64 | 76 | 67 | 54 |
| 2100 | 63 | 79 | 66 | 53 |
| 2200 | 61 | 74 | 65 | 50 |
| 2300 | 61 | 83 | 64 | 46 |

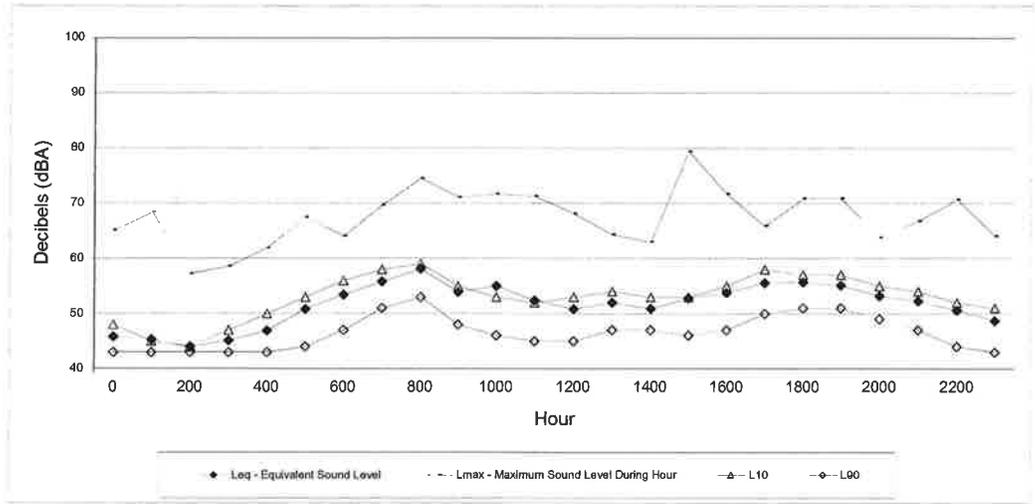
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Site 1: 80 ft south of Blue Ravine Rd
Saturday November 5, 2016

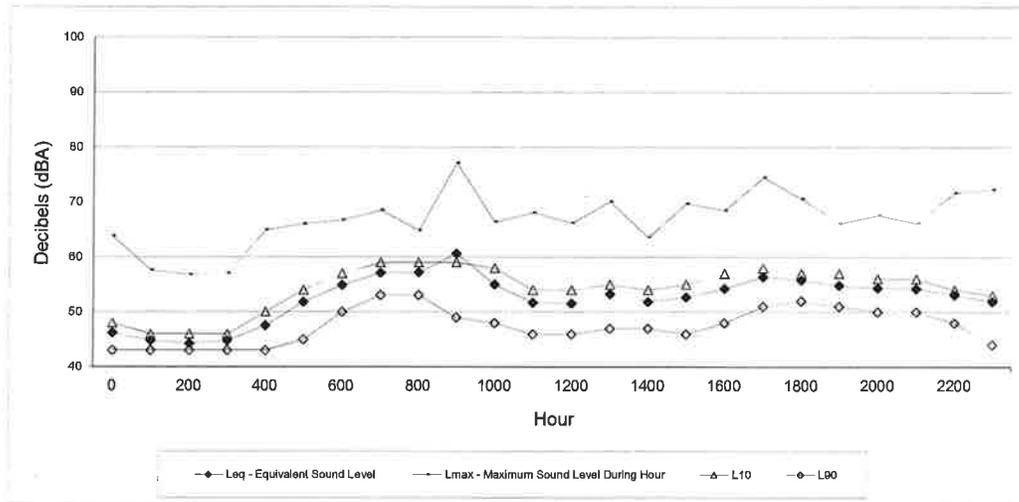
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| 200 | 54 | 74 | 55 | 43 |
| 300 | 51 | 70 | 51 | 43 |
| 400 | 52 | 70 | 53 | 43 |
| 500 | 55 | 73 | 59 | 43 |
| 600 | 58 | 70 | 63 | 44 |
| 700 | 61 | 72 | 65 | 50 |
| 800 | 64 | 88 | 66 | 53 |
| 900 | 63 | 84 | 66 | 52 |
| 1000 | 63 | 73 | 66 | 51 |
| 1100 | 64 | 74 | 67 | 53 |
| 1200 | 64 | 80 | 67 | 54 |
| 1300 | 63 | 75 | 66 | 53 |
| 1400 | 64 | 76 | 66 | 53 |
| 1500 | 64 | 82 | 67 | 52 |
| 1600 | 64 | 78 | 66 | 52 |
| 1700 | 64 | 77 | 67 | 54 |
| 1800 | 64 | 82 | 67 | 54 |
| 1900 | 65 | 88 | 67 | 53 |
| 2000 | 63 | 80 | 66 | 53 |
| 2100 | 62 | 78 | 65 | 51 |
| 2200 | 60 | 76 | 64 | 47 |
| 2300 | 59 | 76 | 63 | 45 |

CNEL: 66



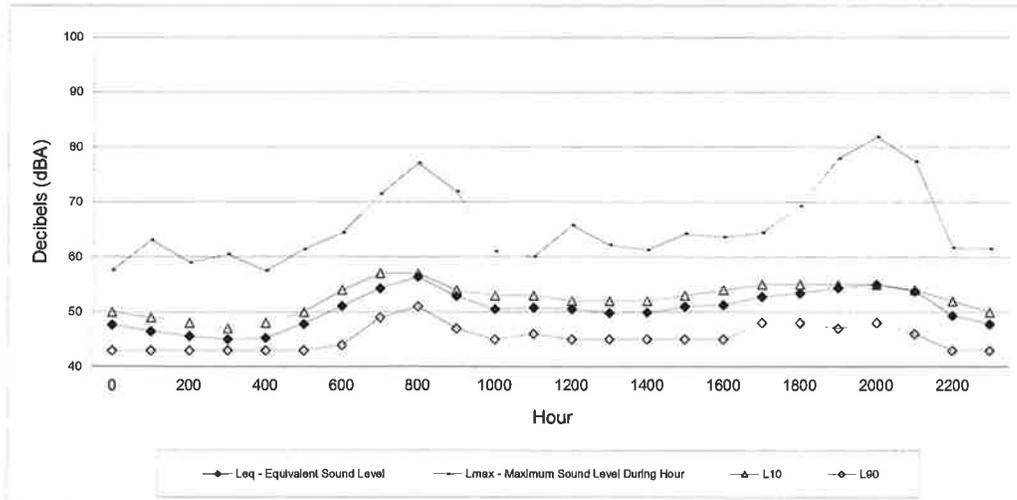
Site 2: NW perimeter of site
Thursday November 3, 2016

| Hour | Leq - Equivalent Sound Level | Lmax - Maximum Sound Level During Hour | Hour | L10 | L90 |
|------|------------------------------|--|------|-----|-----|
| 0 | 46 | 65 | 65 | 48 | 43 |
| 100 | 45 | 68 | 68 | 45 | 43 |
| 200 | 44 | 57 | 57 | 44 | 43 |
| 300 | 45 | 59 | 59 | 47 | 43 |
| 400 | 47 | 62 | 62 | 50 | 43 |
| 500 | 51 | 68 | 68 | 53 | 44 |
| 600 | 53 | 64 | 64 | 56 | 47 |
| 700 | 56 | 70 | 70 | 58 | 51 |
| 800 | 58 | 75 | 75 | 59 | 53 |
| 900 | 54 | 71 | 71 | 55 | 48 |
| 1000 | 55 | 72 | 72 | 53 | 46 |
| 1100 | 52 | 71 | 71 | 52 | 45 |
| 1200 | 51 | 68 | 68 | 53 | 45 |
| 1300 | 52 | 64 | 64 | 54 | 47 |
| 1400 | 51 | 63 | 63 | 53 | 47 |
| 1500 | 53 | 79 | 79 | 53 | 46 |
| 1600 | 54 | 72 | 72 | 55 | 47 |
| 1700 | 56 | 66 | 66 | 58 | 50 |
| 1800 | 56 | 71 | 71 | 57 | 51 |
| 1900 | 55 | 71 | 71 | 57 | 51 |
| 2000 | 53 | 64 | 64 | 55 | 49 |
| 2100 | 52 | 67 | 67 | 54 | 47 |
| 2200 | 51 | 71 | 71 | 52 | 44 |
| 2300 | 49 | 64 | 64 | 51 | 43 |



Site 2: NW perimeter of site
Friday November 4, 2016

| Hour | Leq - Equivalent Sound Level | Lmax - Maximum Sound Level During | Hour | L10 | L90 |
|------|------------------------------|-----------------------------------|------|-----|-----|
| 0 | 46 | 64 | 64 | 48 | 43 |
| 100 | 45 | 58 | 58 | 46 | 43 |
| 200 | 44 | 57 | 57 | 46 | 43 |
| 300 | 45 | 57 | 57 | 46 | 43 |
| 400 | 48 | 65 | 65 | 50 | 43 |
| 500 | 52 | 66 | 66 | 54 | 45 |
| 600 | 55 | 67 | 67 | 57 | 50 |
| 700 | 57 | 69 | 69 | 59 | 53 |
| 800 | 57 | 65 | 65 | 59 | 53 |
| 900 | 61 | 77 | 77 | 59 | 49 |
| 1000 | 55 | 66 | 66 | 58 | 48 |
| 1100 | 52 | 68 | 68 | 54 | 46 |
| 1200 | 52 | 66 | 66 | 54 | 46 |
| 1300 | 53 | 70 | 70 | 55 | 47 |
| 1400 | 52 | 64 | 64 | 54 | 47 |
| 1500 | 53 | 70 | 70 | 55 | 46 |
| 1600 | 54 | 69 | 69 | 57 | 48 |
| 1700 | 56 | 75 | 75 | 58 | 51 |
| 1800 | 56 | 71 | 71 | 57 | 52 |
| 1900 | 55 | 66 | 66 | 57 | 51 |
| 2000 | 54 | 68 | 68 | 56 | 50 |
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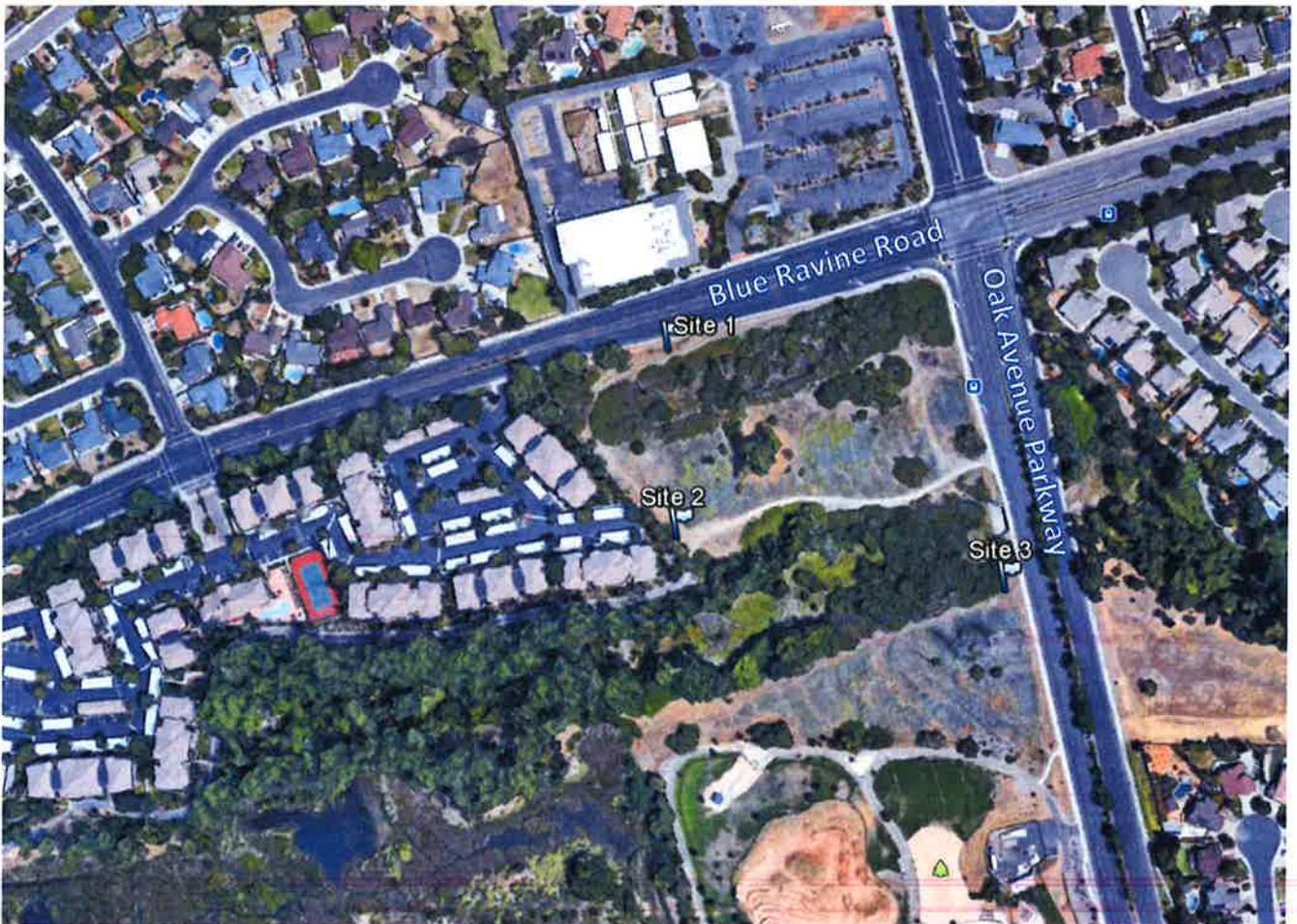


Site 2: NW perimeter of site
Saturday November 5, 2016

| Hour | Leq - Equivalent Sound Level | Lmax - Maximum Sound Level During | Hour | L10 | L90 |
|------|------------------------------|-----------------------------------|------|-----|-----|
| 0 | 48 | 58 | 58 | 50 | 43 |
| 100 | 47 | 63 | 63 | 49 | 43 |
| 200 | 46 | 59 | 59 | 48 | 43 |
| 300 | 45 | 61 | 61 | 47 | 43 |
| 400 | 45 | 58 | 58 | 48 | 43 |
| 500 | 48 | 61 | 61 | 50 | 43 |
| 600 | 51 | 64 | 64 | 54 | 44 |
| 700 | 54 | 72 | 72 | 57 | 49 |
| 800 | 56 | 77 | 77 | 57 | 51 |
| 900 | 53 | 72 | 72 | 54 | 47 |
| 1000 | 51 | 61 | 61 | 53 | 45 |
| 1100 | 51 | 60 | 60 | 53 | 46 |
| 1200 | 51 | 66 | 66 | 52 | 45 |
| 1300 | 50 | 62 | 62 | 52 | 45 |
| 1400 | 50 | 61 | 61 | 52 | 45 |
| 1500 | 51 | 64 | 64 | 53 | 45 |
| 1600 | 51 | 64 | 64 | 54 | 45 |
| 1700 | 53 | 64 | 64 | 55 | 48 |
| 1800 | 53 | 69 | 69 | 55 | 48 |
| 1900 | 54 | 78 | 78 | 55 | 47 |
| 2000 | 55 | 82 | 82 | 55 | 48 |
| 2100 | 54 | 77 | 77 | 54 | 46 |
| 2200 | 49 | 62 | 62 | 52 | 43 |
| 2300 | 48 | 62 | 62 | 50 | 43 |

CNEL: 56

Noise Measurement Locations
Folsom Parkway Apartments



NORTHERN CALIFORNIA

2525 Warren Drive
Rocklin, CA 95677
(916) 782-9100
Corporate Headquarters

INLAND EMPIRE

215 N. Fifth Street
Redlands, CA 92374
(909) 307-0046

ORANGE COUNTY

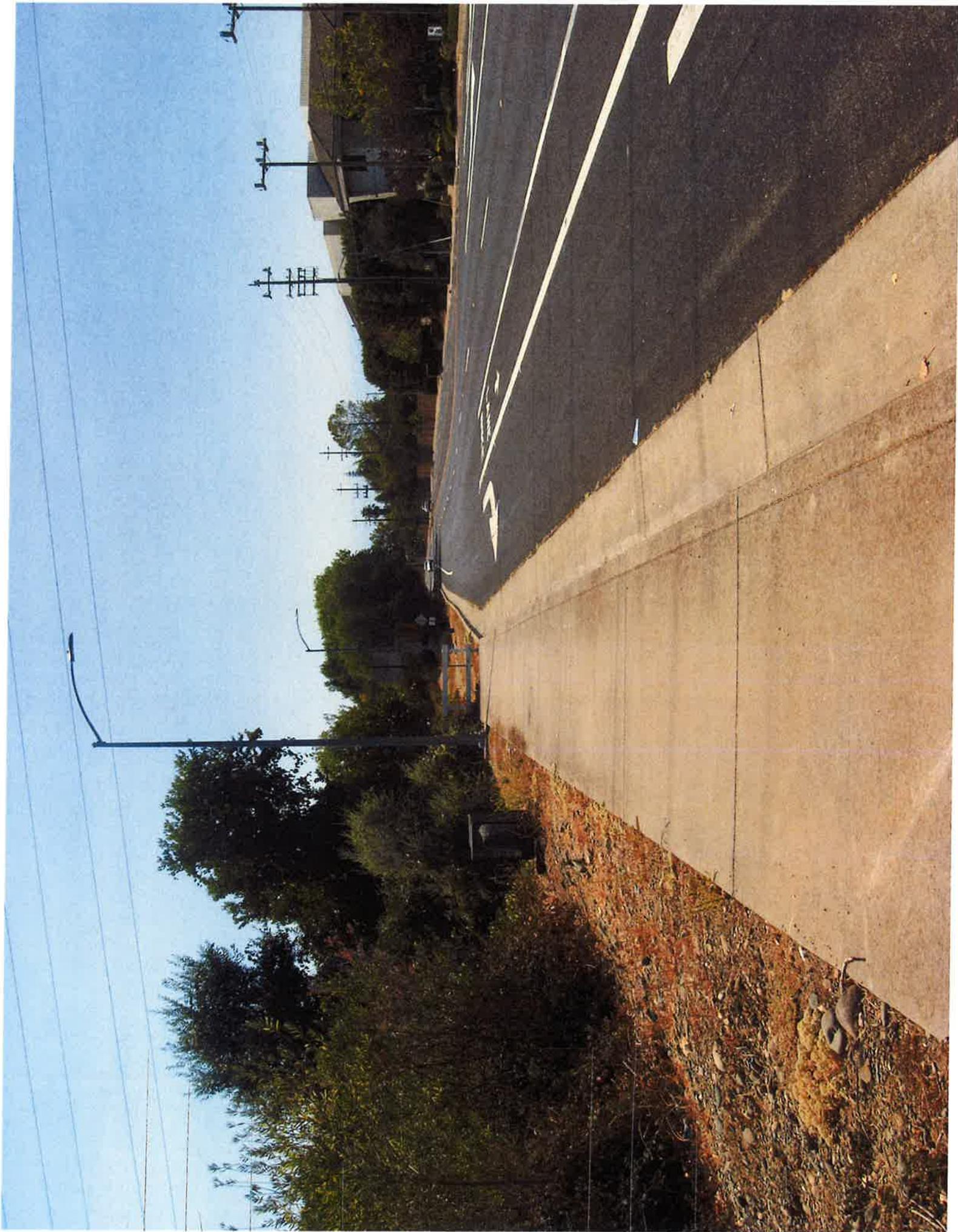
1801 Park Court Place
Building B, Suite 103
Santa Ana, CA 92701
(714) 648-0630

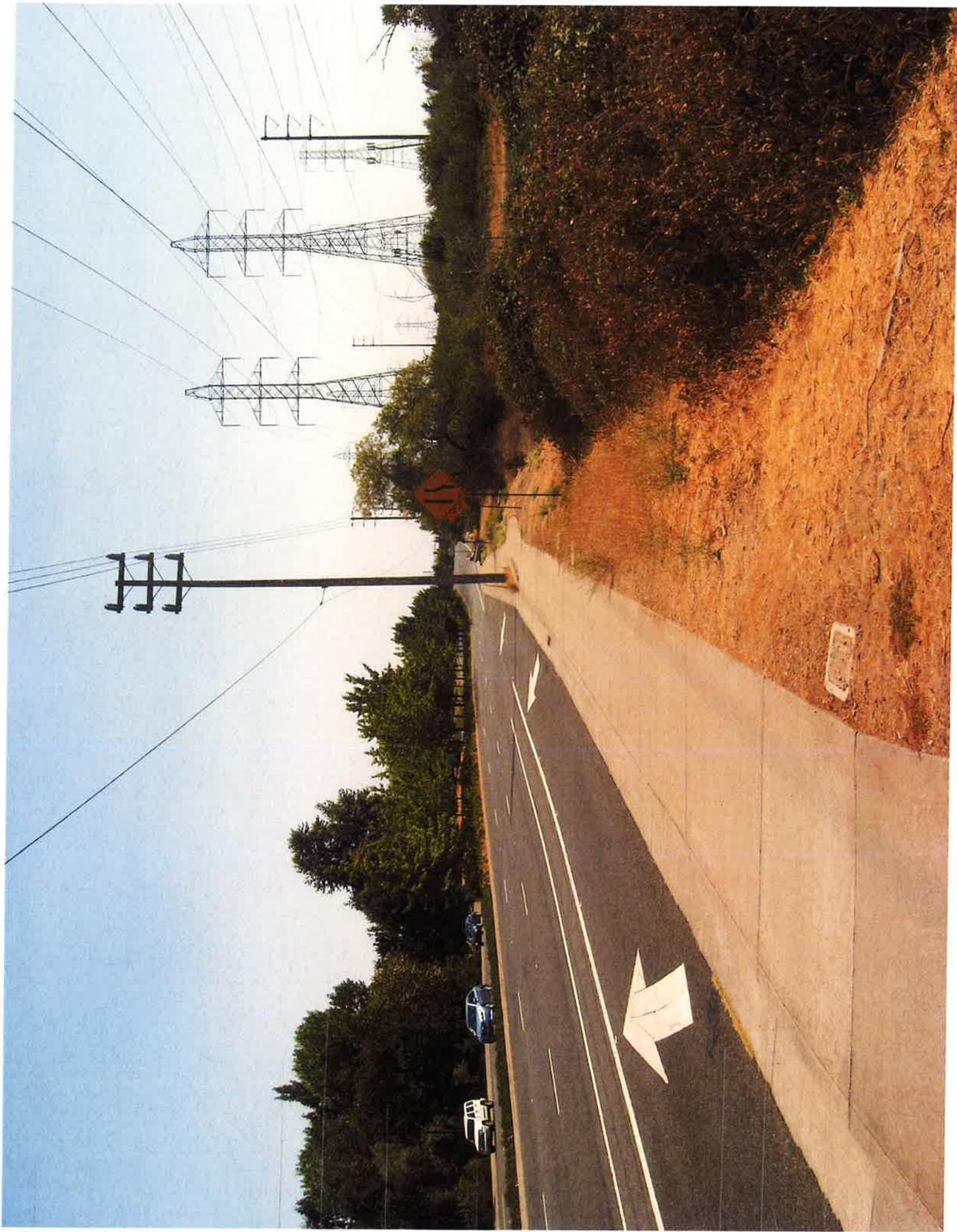
SAN DIEGO

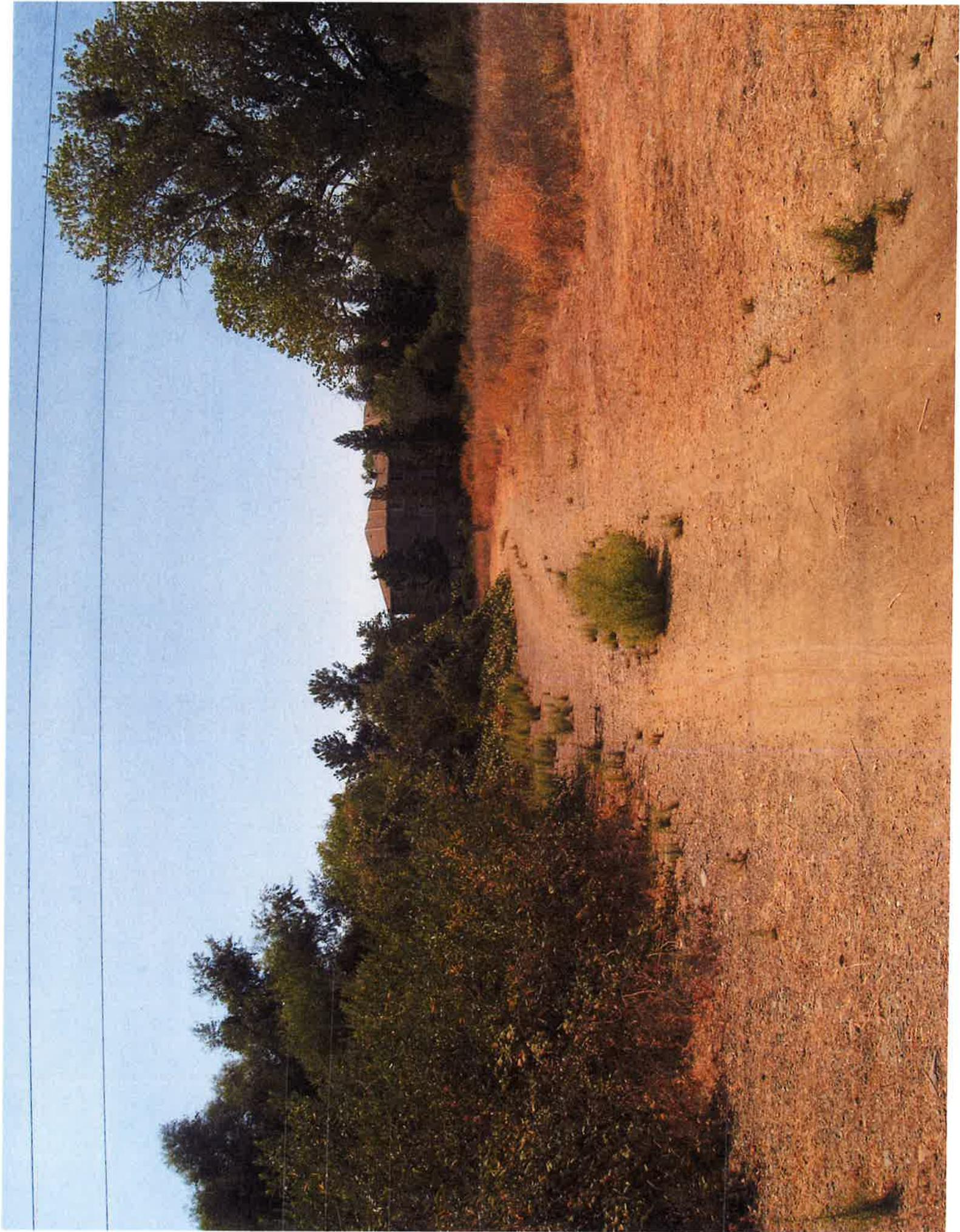
3914 Murphy Canyon Rd
Suite A206
San Diego, CA 92123
(858) 279-4040

www.ecorpconsulting.com

Attachment 10
Site Photographs









DATE: March 9, 2017
TO: Planning Commission Members
FROM: Community Development Department
SUBJECT: Renaming Scott Road to East Bidwell Street

BACKGROUND/ISSUE

In 2012 the City of Folsom annexed the 3,613 acre Folsom Plan Area into the City of Folsom. One outcome of the annexation is that there are now two streets within the City of Folsom's city limits that are named Scott (Scott Road and Scott Street). As a result, emergency services personnel have expressed strong public safety concerns that there are now two streets in the City with the name. Furthermore, both the Folsom Fire Department and Folsom Police Department have requested that Scott Road be renamed East Bidwell Street.

The Large Lot Final Map for Mangini Ranch is scheduled for review and approval by the City Council at its March 28th City Council Meeting. The name Scott Road is shown on the Tentative Large Lot Map for Mangini Ranch (approved by the Planning Commission on May 20, 2015). As such, staff has determined that it makes sense to move forward now with the proposal to rename Scott Road to East Bidwell Street so that the new name (East Bidwell Street) can be incorporated into the Large Lot Final Map for Mangini Ranch and avoid potential future conflicts.

Since the Planning Commission has the responsibility to approve street names, staff is requesting that the Planning Commission recommend that the City Council approve the proposed street name change.

POLICY/RULE

Under Section 16.08.020(C)[6] of the Folsom Municipal Code, the Planning Commission has the responsibility to approve proposed street names. Under Section 5026 of the California Streets and Highways Code and Sections 34091.1 and 34092 of the California Government Code the City Council may, by resolution, change the name of any street within the City, provided that a copy of the resolution is forwarded by the city clerk to the county clerk and county surveyor in which the city is located.

ANALYSIS

As indicated in the background section of this report, the reason for renaming Scott Road to East Bidwell Street in the Folsom Plan Area is to resolve a public safety concern. A consequence of the annexation of the Folsom Plan Area is that there now exist two streets within the City that are named Scott (Scott Road and Scott Street). Scott Road is located within the Folsom Plan Area and Scott Street is located within the Historic District. The primary concern that arises when discussing duplicate street names is the potential for confusion and the resulting delay in emergency response. Hence, both the Folsom Fire Department and the Folsom Police Department have made it clear that street names within the City need to be clear and unique to avoid confusion for emergency service

providers (as well as the business sector and the general public) when attempting to locate a property.

Given that Scott Road is a continuation of East Bidwell Street, emergency services have concluded that it is appropriate to rename Scott Road to East Bidwell Street. It is important to note that there are currently no addresses assigned to the parcels along Scott Road. As such, no address changes are required as a result of this proposed street name change.

ENVIRONMENTAL ANALYSIS

The project is categorically exempt from environmental review under Section 15061(b)(3) of the CEQA Guidelines (Review for Exemption).

ATTACHMENT

1. Exhibit A

RECOMMENDED ACTION

Staff recommends that the street name of East Bidwell Street replace the existing street name Scott Road within the City limits of the City of Folsom.

PLANNING COMMISSION ACTION

MOVE TO RECOMMEND THAT THE CITY COUNCIL APPROVE THE STREET NAME OF EAST BIDWELL STREET TO REPLACE THE EXISTING STREET NAME SCOTT ROAD WITHIN THE CITY LIMITS OF THE CITY OF FOLSOM.

Submitted,

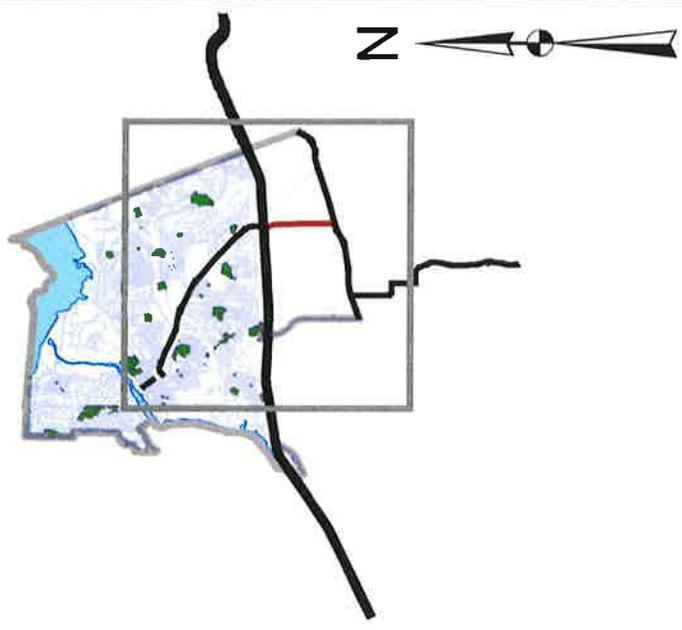


DAVID E. MILLER, AICP
Community Development Director

Exhibit A

Renaming Scott Road to East Bidwell Street

Renaming Scott Rd. to E. Bidwell St. Exhibit A



Legend

- HWY 50
- White Rock Rd.
- Scott St.
- Scott Rd.
- E. Bidwell St.
- City Boundary



PLANNING COMMISSION STAFF REPORT

PROJECT TITLE: Folsom Corporate Center Development Agreement Amendment No. 2

PROPOSAL: To consider a request from Evergreen Management Company for an amendment to the Folsom Corporate Center Development Agreement and determination that no further environmental review is required under CEQA

RECOMMENDED ACTION: Recommend to City Council Approval of the Folsom Corporate Center Development Agreement Amendment No. 2, based upon findings

APPLICANT/OWNER: Evergreen Folsom Land Joint Venture/Evergreen Management Company

LOCATION: South side of Iron Point Road between Broadstone Parkway and Oak Avenue Parkway

ZONING: M-L PD (Limited Manufacturing, Planned Development District)

GENERAL PLAN DESIGNATIONS: IND (Industrial/Office Park)

PREVIOUS ACTION: City Council approval of a Tentative Subdivision Map and Planned Development Permit for the Folsom Corporate Center (PN 00-136) on August 15, 2000, City Council Approval of the Folsom Corporate Center Development Agreement (PN 07-412) on September 23, 2008, and City Council Approval of the Folsom Corporate Center Development Agreement Amendment No. 1 (PN 17-051) on November 10, 2015

FUTURE ACTION: Execution and recordation of the Development Agreement Amendment

APPLICABLE CODES: Resolution No. 2370 – A Resolution Establishing Procedures and Requirements for Development Agreements
Article 2.5 (Development Agreements) of the State Planning and Zoning Law

ENVIRONMENTAL REVIEW:

An Initial Study, Mitigated Negative Declaration, and Mitigation Monitoring Program were previously approved for the Folsom Corporate Center in accordance with the California Environmental Quality Act (CEQA)

ATTACHED REFERENCE MATERIAL

1. Project Area Maps
2. Folsom Corporate Center Development Agreement Amendment No. 2

PROJECT PLANNER:

Steve Banks, Principal Planner

BACKGROUND

On August 15, 2000, the City Council approved a Tentative Subdivision Map and Planned Development for development of a 1.425-million-square-foot professional office center known as the Folsom Corporate Center. On May 1, 2002, the Planning Commission approved a Planned Development Permit and Conditional Use Permit for development of a 255,795-square-foot retail shopping center known as Folsom Gateway within the eastern portion of the previously approved Folsom Corporate Center. Subsequent to City Council approval of the Folsom Corporate Center, a total of four professional office buildings have been developed within the Folsom Corporate Center with major tenants including HDR, Kaiser Permanente, Micron, and Safe Credit Union. It is important to note that there are currently four undeveloped parcels remaining within the Folsom Corporate Center.

On September 23, 2008, the City Council approved a Development Agreement for the Folsom Corporate Center. The Folsom Corporate Center Development Agreement replaced two previous development agreements that related to the project site (Broadstone Unit No. 2 Development Agreement and Money Store Development Agreement). The most notable aspects of the Folsom Corporate Center Development Agreement were that it recognized the Folsom Corporate Center Planned Development Guidelines as the guiding document for future commercial development and also acknowledged that commercial development would be subject to impact fees that are in place at the time building permits are issued. The Development Agreement also provided accommodation for a future freeway overpass in the vicinity of Rowberry Drive and Iron Point Road and protects the developer with potential fee credits associated with the overpass project.

On November 10, 2015, the City Council approved Development Agreement Amendment No. 1 for the Folsom Corporate Center. The primary purpose of Development Agreement Amendment No. 1 was to ensure that adequate time was provided to successfully complete build-out of the four remaining commercial properties (APN Nos. 072-3120-001, 072-3120-002, 072-3120-005, and 072-3120-023) located within the Folsom Corporate Center by extending the term of the development agreement by seven (7) years or until May 26, 2023.

PROPOSAL

The subject application before the Planning Commission is a request by Evergreen Management Company for the second amendment to the Folsom Corporate Center Development Agreement. The applicant's primary purpose in requesting another amendment to the Folsom Corporate

Center Development agreement is to make certain adequate time is provided to successfully complete build-out of the four remaining properties (APN Nos. 072-3120-001, 072-3120-002, 072-3120-005, and 072-3120-023) located within the Folsom Corporate Center. In order to ensure build-out of the Folsom Corporate Center, the applicant is proposing to extend the term of the development agreement by one (1) year or until May 26, 2024. In addition, the request for the extension is also being made to accommodate a possible future expansion (up to 65,000 square feet) of Safe Credit Union onto one of the four remaining undeveloped parcels within the Folsom Corporate Center. Lastly, the proposed amendment seeks to modify the procedural requirements for any subsequent amendments to the Agreement.

POLICY / RULE

As set forth in Article 2.5 (Development Agreements) of the State Planning and Zoning Law, approval of, or amendments to, a Development Agreement is a legislative act which requires approval by the City Council following review and recommendation by the Planning Commission. In addition, the proposed project is subject to City Council Resolution No. 2370, which establishes specific procedures and requirements for approval of a Development Agreement.

ANALYSIS

As previously mentioned in the proposal section of this report, the subject application before the Planning Commission is a request by Evergreen Management Company for approval of an amendment to the Folsom Corporate Center Development Agreement in order to extend the life of the development agreement by one year. This request applies only to four remaining properties located on the south side of Iron Point Road within the Folsom Corporate Center that are currently undeveloped. As noted earlier within this report, the most significant feature of the Folsom Corporate Center Development Agreement Amendment No. 2 is the extension in time to ensure that the four remaining undeveloped commercial parcels within the Folsom Corporate Center are able to be successfully developed. In addition, the proposed Amendment provides flexibility for the potential future expansion of Safe Credit Union by allocating and clarifying the maximum square footage approved for improvements to be constructed within the Folsom Corporate Center. Specifically, the Safe Credit Union parcel will be allocated up to 65,000 square feet of additional building area on one of the four undeveloped parcels, while the remaining 325,000 square feet of building area would be allocated among the three remaining undeveloped parcels within the Folsom Corporate Center.

In general, development agreements are an important tool utilized to strengthen the public land use planning process, encourage private participation in the development process, and to reduce economic risks associated with development activity. In relation to the proposed project, the establishment of the original Folsom Corporate Center Development Agreement in 2008 has been relatively successful and resulted in many benefits to the City including development of 357,000 square feet of retail commercial tenant space (Sam's Club, REI, etc.) and 300,000 square feet of professional office space (Kaiser Permanente, Micron, Safe Credit Union, etc.) within the Folsom Corporate Center. However, the most recent economic downturn in 2007 slowed growth within the Folsom Corporate Center and as a result; four commercially-zoned parcels totaling 18 acres remain undeveloped. The applicant has stated that the amendment to extend the development agreement by one year will provide sufficient time for successful completion of the Folsom Corporate Center.

In evaluating the request for the amendment and the associated one year extension in time for the Folsom Corporate Center Development Agreement, City staff determined that the proposed project will provide significant benefit to the City through diversification of the economic employment base (office and retail development), increasing local employment opportunities, and strengthening the City's tax revenue stream. In addition, the applicant has included an accommodation that provides flexibility in the distribution of the remaining building area to ensure successful development of the remaining four parcels within the Folsom Corporate Center. Based on the aforementioned factors, staff supports the amendment to the Folsom Corporate Center Development Agreement which will extend the life of the development agreement for a period of one year.

ENVIRONMENTAL REVIEW

An Initial Study, Mitigated Negative Declaration, and Mitigation Monitoring Program were previously approved for the Folsom Corporate Center in accordance with the California Environmental Quality Act (CEQA). Because the proposed Development Agreement Amendment will not result in substantial changes that were not already considered with previous approvals, staff has determined that no further environmental review is required.

RECOMMENDATION/PLANNING COMMISSION ACTION

MOVE TO RECOMMEND TO THE CITY COUNCIL ADOPTION OF AN ORDINANCE APPROVING THE FOLSOM CORPORATE CENTER DEVELOPMENT AGREEMENT AMENDMENT NO. 2, WHICH EXTENDS THE LIFE OF THE DEVELOPMENT AGREEMENT BY A PERIOD OF ONE YEAR, ALLOCATES AND CLARIFIES THE MAXIMUM SQUARE FOOTAGE APPROVED FOR IMPROVEMENTS TO BE CONSTRUCTED WITHIN THE FOLSOM CORPORATE CENTER, AND MODIFIES THE PROCEDURAL REQUIREMENTS FOR SUBSEQUENT AMENDMENTS TO THE AGREEMENT, PER ATTACHMENT 2 WITH THE FOLLOWING FINDINGS:

GENERAL FINDINGS

- A. NOTICE OF HEARING HAS BEEN GIVEN IN THE TIME AND IN THE MANNER REQUIRED BY STATE LAW AND CITY CODE.
- B. THE PROJECT IS CONSISTENT WITH THE GENERAL PLAN, THE ZONING CODE OF THE CITY, AND THE BROADSTONE UNIT NO. 2 MASTER PLAN.

CEQA FINDING

- C. AN INITIAL STUDY, MITIGATED NEGATIVE DECLARATION, AND MITIGATION MONITORING PROGRAM WERE PREVIOUSLY APPROVED FOR THE FOLSOM CORPORATE CENTER IN ACCORDANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA). STAFF HAS DETERMINED THAT THE PROPOSED DEVELOPMENT AGREEMENT EXTENSION WILL NOT RESULT IN SUBSTANTIAL CHANGES TO THE PROJECT THAT WERE NOT ALREADY CONSIDERED WITH PREVIOUS APPROVALS, AND NO FURTHER ENVIRONMENTAL REVIEW IS REQUIRED.

DEVELOPMENT AGREEMENT AMENDMENT FINDINGS

- D. THE PROPOSED EXTENSION TO THE DEVELOPMENT AGREEMENT IS CONSISTENT WITH THE OBJECTIVES, POLICIES, GENERAL LAND USES AND PROGRAMS SPECIFIED IN THE CITY'S GENERAL PLAN AND ANY APPLICABLE COMMUNITY AND SPECIFIC PLANS.
- E. THE PROPOSED EXTENSION TO THE DEVELOPMENT AGREEMENT IS IN CONFORMITY WITH PUBLIC CONVENIENCE, GENERAL WELFARE, AND GOOD LAND USE PRACTICES.
- F. THE PROPOSED EXTENSION TO THE DEVELOPMENT AGREEMENT WILL NOT BE DETRIMENTAL TO THE HEALTH, SAFETY, AND GENERAL WELFARE OF PERSONS RESIDING IN THE IMMEDIATE AREA, NOR BE DETRIMENTAL OR INJURIOUS TO PROPERTY OR PERSONS IN THE GENERAL NEIGHBORHOOD OR TO THE GENERAL WELFARE OF THE RESIDENTS OF THE CITY AS A WHOLE.
- G. THE PROPOSED EXTENSION TO THE DEVELOPMENT AGREEMENT WILL NOT ADVERSELY AFFECT THE ORDERLY DEVELOPMENT OF PROPERTY OR THE PRESERVATION OF PROPERTY VALUES.
- H. THE PROPOSED EXTENSION TO THE DEVELOPMENT AGREEMENT IS CONSISTENT WITH THE PROVISIONS OF GOVERNMENT CODE SECTIONS 65864 THROUGH 65869.5

Submitted,



DAVID E. MILLER, AICP

Community Development Director

Attachment 1
Project Area Map

Project Area



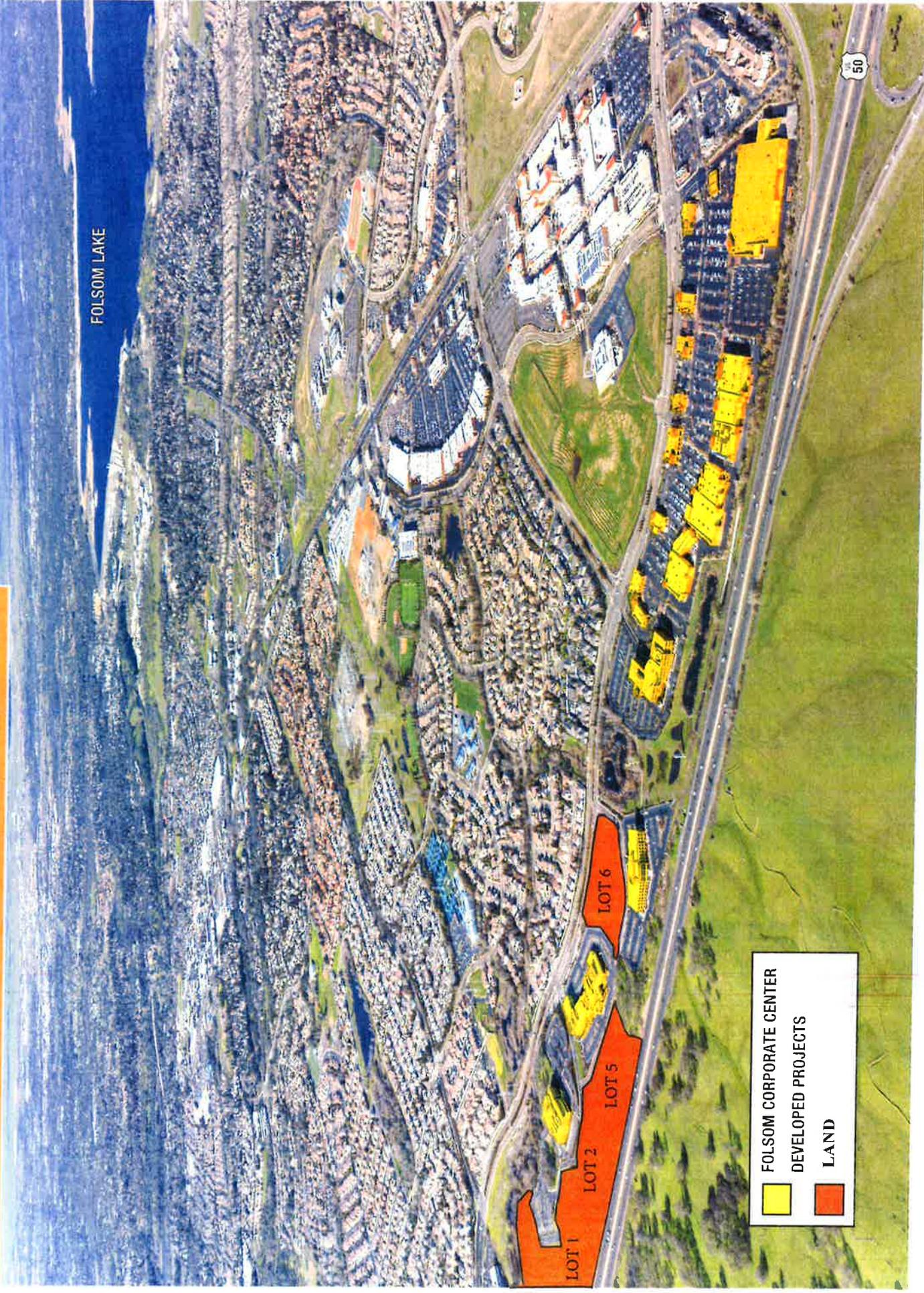
FOLSOM CORPORATE CENTER

FOLSOM LAKE

50

| | |
|---|-------------------------|
|  | FOLSOM CORPORATE CENTER |
|  | DEVELOPED PROJECTS |
|  | LAND |

LOT 1
LOT 2
LOT 5
LOT 6



Attachment 2

**Folsom Corporate Center Development Agreement
Amendment No. 2**

FOR THE BENEFIT OF THE CITY OF FOLSOM
PURSUANT TO GOVERNMENT CODE §6103

RECORDING REQUESTED BY CITY CLERK

WHEN RECORDED MAIL TO:

City Clerk
City of Folsom
50 Natoma Street
Folsom, CA 95630

(SPACE ABOVE THIS LINE RESERVED FOR RECORDER'S USE)

**AMENDMENT NO. 2 TO
DEVELOPMENT AGREEMENT
BY AND BETWEEN
THE CITY OF FOLSOM
AND
EVERGREEN/FOLSOM LAND JOINT VENTURE
A California General Partnership
AND
BRADVILLE, INC.
A California Corporation
RELATIVE TO THE FOLSOM CORPORATE CENTER**

**AMENDMENT NO. 2
TO DEVELOPMENT AGREEMENT
BY AND BETWEEN
THE CITY OF FOLSOM
AND
EVERGREEN/FOLSOM LAND JOINT VENTURE,
A CALIFORNIA GENERAL PARTNERSHIP,
AND
BRADVILLE, INC.,
A CALIFORNIA CORPORATION**

This Amendment No. 2 to the Development Agreement (“Amendment No. 2”) is entered into this ___ day of _____, 2017, by and between the CITY OF FOLSOM, a California Charter Municipal Corporation (“City”), and EVERGREEN/FOLSOM LAND JOINT VENTURE, a California General Partnership, and BRADVILLE, INC., a California Corporation (collectively, “Developer”), pursuant to the authority of Sections 65864 through 65869.5 of the Government Code of California. All capitalized terms used herein and not otherwise defined herein shall mean and refer to those terms as defined in Section 1.3 of the Development Agreement described below between the parties hereto.

RECITALS

A. **Development Agreement.** The City and Developer previously entered into that certain Development Agreement By and Between the City of Folsom and Developer Relative to the Folsom Corporate Center (“Original Development Agreement”), recorded on October 10, 2008, in the Official Records of the County Recorder of Sacramento County in Book 20081010, Page 0665, as amended by the Amendment No. 1 (“Amendment No. 1”), dated November 10, 2015 and recorded on June 17, 2016, in the Official Records of the County Recorder of Sacramento County in Book 20160617, Page 1039 (as so amended, the “Agreement”). Section 1.14 of the Agreement allows the Agreement to be amended from time to time by mutual written consent of the parties.

B. **Purpose of Amendment.** The Folsom Corporate Center is a 124-acre mixed use development located north of Highway 50, west of Bidwell Street, south of Iron Point Road, and east of Oak Avenue Parkway. Due to a slowdown in economic activity, full buildout of the Folsom Corporate Center was delayed. In Amendment No. 1, the Original Development Agreement was amended to extend its term to May 26, 2023, among other items. Due to continuing slow economic activity, Developer and City wish to extend the term of the Agreement for an additional year to May 26, 2024, to achieve those significant public benefits identified in Recital 3 of the Original Development Agreement for those certain parcels that remain undeveloped. The additional objectives of this Amendment No. 2 are to: (1) allocate and clarify the maximum square footage approved for improvements to be constructed on the Subject Property; and (2) modify the procedural requirements for subsequent amendments to the Agreement.

C. Property. The subject of this Amendment No. 2 is the development of that certain real property described in Exhibit "A" which is incorporated herein and made a part hereof (the "Subject Property"). Developer owns the Subject Property and represents that all persons holding legal or equitable interests in the Subject Property shall be bound by this Amendment No. 2. Amendment No. 1 purported to replace the Exhibit "A" attached to and incorporated into the Original Development Agreement with a new Exhibit "A", but such exhibit was inadvertently omitted from the recorded Amendment No. 1. Exhibit "A" attached hereto is the missing Exhibit "A" that was approved and adopted by the parties in connection with Amendment No. 1.

D. Hearings. On March __, 2017, the City Planning Commission, designated as the planning agency for purposes of development agreement review pursuant to Government Code Section 65867, in a duly noticed and conducted public hearing, considered this Amendment No. 2 and recommended that the City Council approve this Amendment No. 2 to the Agreement.

E. No New Impacts Associated with Approval of Amendment. The City Council has determined that the adoption of this Amendment No. 2 involves no new impacts not considered in the Broadstone Master Plan EIR or the adopted Negative Declarations based thereon; therefore, no further environmental documents relating to the adoption of this Amendment No. 2 are required.

F. Consistency with General Plan and Specific Plan. Having duly examined and considered this Amendment No. 2, City finds and declares that this Amendment No. 2 is consistent with the General Plan and the Broadstone Master Plan.

NOW, THEREFORE, the parties hereto, in consideration of the mutual covenants, promises, and agreements herein contained, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged and agreed, the parties hereto do hereby agree that the Agreement is amended as follows:

1. Amendment of Development Agreement.

a. All references to Exhibit "A" in Amendment No. 1 shall be deemed to be references to Exhibit "A" attached hereto and incorporated herein by reference.

b. Section 1.3(a), Section 1.8, Section 1.14 and Section 2.1 (b) of the Agreement are hereby amended to read as follows:

(i) Section 1.3(a) Adopting Ordinance. "Adopting Ordinance" means Ordinance No. __, entitled: "Amendment No. 2 to Development Agreement between the City of Folsom and Evergreen/Folsom Land Joint Venture, a California General Partnership and Bradville, Inc., a California Corporation" dated _____, 2017, and effective _____, which approves Amendment No. 2 to the Agreement, as required by Government Code section 65867.5.

(ii) Section 1.8 Term of Agreement. The Agreement, as modified by Amendment No. 2, shall commence upon execution of Amendment No. 2 to the Agreement, and shall continue in force until May 26, 2024 unless extended or terminated as provided herein.

Following the expiration of the term or any extension thereof, or if sooner terminated, the Agreement shall have no force and effect, subject, however, to post-termination obligations of Developer and/or Landowner.

(iii) Section 1.14 **Amendment to Agreement (Developer and City)**.

This Agreement may be amended by mutual consent of the parties in writing, in accordance with the provisions of Government Code 65868. Any amendment entered into between Developer and City shall require the signature of each Landowner of any portion of the Subject Property to the extent the amendment modifies this Agreement as to that Landowner's property. A noticed public hearing shall be required for any amendment to this Agreement.

(iv) Section 2.1(b) **Construction of Improvements**. As provided in the Planning Documents and Sections 1.11, 2.4, 2.5, 2.10 and 2.11 of the Agreement, City agrees that Developer shall have the right to construct up to a combined maximum of 390,000 square feet of commercial and/or professional office use buildings on the Subject Property (the "Maximum Square Footage"), together with appurtenant surface parking and other ancillary improvements, in accordance with and subject to the Collective Standards. Parking area improvements, parking structures and/or ancillary use improvements shall not count against the Maximum Square Footage. The portion of the Maximum Square Footage allocated to Lot 5 (as defined below) shall be 65,000 square feet. The remaining 325,000 square feet of the Maximum Square Footage shall be allocated at Developer's discretion among the Remainder Property (as defined below). The development of all portions of the Subject Property shall be in accordance with and subject to the Collective Standards. As used herein, "Lot 5" means Parcel 5 as shown on that certain Parcel Map entitled "Parcel Map PN-07-426 Resubdivision of Parcel 4, and a portion of Parcel 5, and a portion of Parcel R6 of 161 P.M. 1, Parcel A of 20010710 O.R. 73 and Parcel A and Parcel B of 20070928 page 1436, O.R.", filed December 31, 2008 in Book 211 of Parcel Maps, at Page 17, Sacramento County Records. As used herein, "Remainder Property" means all of the Subject Property other than Lot 5.

2. **Effect of Amendment**. This Amendment No. 2 amends, but does not replace or supersede, the Original Development Agreement. In the event of any conflict, the language of this Amendment No. 2 shall be controlling in all events or circumstances. Except as modified hereby, all other terms and provisions of the Original Development Agreement shall remain in full force and effect.

3. **Form of Amendment; Execution in Counterparts**. This Amendment No. 2 is executed in duplicate originals, each of which shall be deemed to be an original, and may be executed in counterparts.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the City of Folsom has authorized the execution of this Amendment No. 2 in duplicate by its Mayor, and attested to by the City Clerk under the authority of Ordinance No. _____ adopted by the City Council on the ___ day of _____, 2017.

CITY:

CITY OF FOLSOM,
a municipal corporation

Andrew J. Morin, Mayor

APPROVED AS TO CONTENT:

Evert W. Palmer, City Manager

APPROVED AS TO FORM:

Steven Wang, City Attorney

ATTEST:

Christa Freemantle, City Clerk

DEVELOPER:

EVERGREEN/FOLSOM LAND JOINT VENTURE, a California general partnership

By: Evergreen Cap Center 81, a California General Partnership, General Partner

By: _____
Name: Raymond W. Gundlach, II
Its: Partner

By: Bradville, Inc., a California corporation, General Partner

By: _____
Name: _____
Its: _____

BRADVILLE, INC., a California corporation

By: _____
Name: _____
Its: _____

EXHIBIT A

Parcel One:

Parcels 1, 2 and 5, as shown on that certain Parcel entitled "Parcel Map PN-07-426 Resubdivision of Parcel 4, and a portion of Parcel 5, and a portion of Parcel R6 of 161 P.M. 1, Parcel A of 20010710 O.R. 73 and Parcel A and B of 20070928 page 1436, O.R.", filed December 31, 2008 in Book 211 of Parcel Maps, at Page 17, Sacramento County Records.

Apn: 072-3120-001, 002 & 005

Parcel Two:

All that real property situated in the State of California, County of Sacramento, City of Folsom, being all of Parcels 6 and 7, as shown on Parcel Map PN 07-426, filed on December 31, 2008 in Book 211 of Parcel Maps, at Page 17, Sacramento County Records, being more particularly described as follows:

Beginning at the Northeast corner of said Parcel 7; thence from said point of beginning, along the Easterly boundary of said Parcel 7, South 18°18'41" East, 233.69 feet to the Southeast corner of said Parcel 7; thence, along the boundary of said Parcel 6, the following seven (7) courses: (1) along an arc of a tangent curve to the right, having a radius of 95.00 feet, said arc being subtended by a chord bearing South 20°12'12" West, 118.32 feet; (2) along an arc of a reverse curve, having a radius of 309.00 feet, said arc being subtended by a chord bearing South 47°32'46" West, 119.74 feet; (3) along an arc of a reverse curve, having a radius of 268.00 feet, said arc being subtended by a chord bearing South 62°04'32" West, 232.45 feet; (4) South 87°59'07" West, 222.17 feet; (5) North 01°52'59" West, 62.93 feet; (6) North 54°46'25 East, 186.75 feet; and (7) North 35°13'35" West, 323.50 feet to the Northwest corner of said Parcel 6; thence, along the northerly boundary of said Parcels 6 and 7, the following three (3) courses: (1) along an arc of a non-tangent curve to the left, having a radius of 2053.00 feet, the radius point of which bears North 03°18'18" West, said arc being subtended by a chord bearing North 82°12'37" East, 321.07 feet; (2) North 78°40'36" East, 150.50 feet; and (3) North 67°18'02" East, 58.14 feet to the point of beginning

Apn: 072-3120-023 (New)
072-3120-021 and 022 (Old)

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
COUNTY OF SACRAMENTO)

On _____, 2017, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: _____

(seal)

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
COUNTY OF SACRAMENTO)

On _____, 2017, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: _____

(seal)

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
COUNTY OF SACRAMENTO)

On _____, 2017, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: _____

(seal)

PLANNING COMMISSION STAFF REPORT

| | |
|------------------------------------|--|
| PROJECT TITLE | Broadstone Estates Subdivision |
| PROPOSAL | Request for approval of a Vesting Small Lot Tentative Subdivision Map, the Broadstone Estates Design Guidelines, an inclusionary housing plan for development of a 81 unit single family residential subdivision, and a determination that no further environmental review is required under CEQA. |
| RECOMMENDED ACTION | Approve, based upon findings and subject to conditions of approval. |
| OWNER/APPLICANT | Elliott Homes Inc. Donna Pasquantonio-Leslie, Representative |
| LOCATION | The 37.20± - acre project site is located east of Placerville Road and south of (and adjacent to) Highway 50. It is also located to the north and west of the approved Russell Ranch. |
| SITE CHARACTERISTICS | The project site is situated near the base of the Sierra Nevada foothills, immediately adjacent to the Sacramento Valley Railroad. The topography is hillside covered in non-native and naturalized grasslands. Historically, the site has been used for grazing, farming, and mining and is currently vacant. |
| GENERAL PLAN DESIGNATION | SF (Single Family Residential) OS (Open Space) |
| ZONING | SP-SF (Single Family Residential) SP-OS2 (Open Space) |
| ADJACENT LAND USES / ZONING | North: |

Highway 50. Beyond that, Lifetime Fitness and vacant commercial property.

South:

Undeveloped property. Property is zoned Single Family Residential, Single Family High Density Residential and Open Space (Portion of the Russell Ranch project).

East:

Undeveloped property zoned Single Family Residential, Single Family High Density Residential and Open Space (Portion of the Russell Ranch project).

West:

Undeveloped property zoned General Commercial and Open Space

PREVIOUS ACTIONS

1. Local Agency Formation Commission approval of Sphere of Influence Amendment in 2001
2. Measure W approved by the Voters in 2004
3. Local Agency Formation Commission approval of Annexation of 3500 acres to Folsom in 2011
4. Approval of Folsom Plan Area Specific Plan in 2011
5. Approval of Tier 1 Development Agreement in 2011
6. Approval of Folsom Plan Area Specific Plan Public Facilities Financing Plan in 2014
7. Approval of General Plan Amendment, Specific Plan Amendment and, Approval of First Amended and Restated Tier 1 Development Agreement for Elliot Homes in 2016

FUTURE ACTIONS

1. Approval of Public Right-of-Way and Land Dedication Plan
2. Approval of Open Space Management and Financing Plan
3. Approval of Drainage Facilities Maintenance and Financing Plan
4. Recordation of Final Subdivision Maps
5. Issuance of Improvement Plans
6. Design Review
7. Issuance of Grading and Building Permits

APPLICABLE CITY CODES

FMC 16.16, Tentative Subdivision Maps
FMC 16.28, Vesting Tentative Maps
FMC 17.37, Specific Plan District

FMC 17.104, Inclusionary Housing

ENVIRONMENTAL REVIEW

An addendum to the Folsom Plan Area Specific Plan Environmental Impact Report was certified for this project on June 2, 2016. This project is consistent with the addendum, so no further environmental review is required under CEQA.

ATTACHED REFERENCE MATERIAL

1. Location Map and Illustrative Master Plan Exhibit
2. Administrative Modification dated November 3, 2016
3. Small Lot Vesting Tentative Subdivision Map dated 3-9-17
4. Preliminary Grading and Drainage Plan dated 3-9-17
5. Preliminary Utility Plan dated 3-9-17
6. Preliminary Offsite Improvements Plan dated 3-9-17
7. Inclusionary Housing Plan
8. Broadstone Estates at Russell Ranch Design Guidelines

PROJECT PLANNER

Sherri Abbas Metzker, Contract Planner

BACKGROUND

The subject site is located in the Folsom Plan Area and is generally located south of Highway 50 and east of Placerville Road. Mining is the dominant historical theme on the project site and in the surrounding lands. The region, later known as the Folsom Mining District, was extensively placer mined during the Gold Rush. Since the early 20th century, the property has been primarily used for grazing.

The proposed project site is part of the approved Folsom Plan Area Specific Plan (FPASP), which is a comprehensively planned community that proposes new development based upon principles of “Smart Growth” and Transit Oriented Development. The FPASP area is generally bounded by Prairie City Road on the west, Highway 50 (US 50) on the north, and White Rock Road on the south and the Sacramento County/El Dorado County boundary on the east. The FPASP includes 11,337 residential units at various densities on approximately 1,625 acres; 320 acres designated for commercial and industrial use; 275 acres designated for public/quasi-public uses, elementary, middle, and high schools, and community and neighborhood parks; 1,116 acres of open-space areas and open-space preserves. The Broadstone Estates project site is included in the FPASP and is planned for 81 single family residential units and 12.5 acres of open space.

In June of 2016, Elliott Homes received Planning Commission and City Council approval of a General Plan Amendment and Specific Plan Amendment to change the land use on this 37 acre parcel from commercial and industrial office to residential to facilitate the Broadstone Estates project.

APPLICANT'S PROPOSAL

The applicant, Elliott Homes, Inc, is requesting approval of a Vesting Small Lot Tentative Subdivision Map, Project Design Guidelines, and Inclusionary Housing Plan for the development of a 81-unit single family residential subdivision on 37.2± acres.

The Vesting Small Lot Tentative Subdivision Map proposes to create 81 single family and 12.6 acres of open space, lettered lots. A portion of the open space lots will be used for a municipal water tank.

The Broadstone Estates Design Guidelines are proposed to establish design guidelines for the physical development of the proposed single family residential subdivision. The primary purpose of the design guidelines is to articulate the general architectural and design expectations for the proposed residential neighborhood, the landscapes, hardscapes, open spaces, fencing, entry features and site lighting. The goal of the design guidelines is to establish a regulatory framework for the design of individual homes on the residential lots. The final design details of the homes are subject to review and approval by the Planning Commission as part of a future Design Review application.

External vehicular access into the project site will be provided via Street B (Placerville Road) to the lower portion of the subdivision. Secondary vehicular access will be provided via local street connections in the Russell Ranch subdivision and ultimately to Alder Creek Parkway (formerly Easton Valley Parkway).

Proposed on-site improvements include: underground utilities, drainage improvements, retaining walls, on-street parking, curbs/gutters, sidewalks, a bike trail, fencing, site lighting, and site landscaping. Sewer and water infrastructure will be extended to the project site from the westerly portion of the FPASP area.

PROPOSED MINOR ADMINISTRATIVE MODIFICATION

The approved Broadstone Estates land use plan includes Single Family Residential (SF) and Open Space (OS) and major roadways as shown in the FPASP 2011 and as amended in June 2016. The proposed minor amendments to the Plan include:

- Refinements to OS boundaries to preserve and protect open space, to provide noise attenuation from HWY 50, and to accommodate class 1 bike trails In the Plan.
- Measure W open space acreage remains the same.

The proposed entitlements seek a Minor Administrative Amendment (MAM) to the FPASP 2011 land use plan (Attachment No. 2), as amended in June 2016, for the following minor land use refinements discussed above, as anticipated and permitted in the FPASP 2011, Chapter 13 Implementation, Section 13.3.1 Minor Administrative Amendment. The FPASP anticipates that situations may arise necessitating changes to the Specific Plan Land Use diagram and text and outlines the basis for Minor Administrative Modifications and Specific Plan Amendments. Administrative Modifications do not have a significant impact on the Plan, if they are deemed consistent with the objectives and policies of the FPASP, and can be approved administratively by the Community Development Director.

Per the FPASP 2011, "Minor Administrative Amendments (MAM) to the FPASP that are consistent with and do not substantially change its overall intent, such as minor amendments to the land use locations and parcel boundaries shown in Figure 4.1 and 4.3 and the land use

acreages shown in Table 4.1 may be approved administratively by the Community Development Department, provided the following criteria (as shown below) are met.” Minor Administrative Amendment (MAM) compliance criteria are listed as follows. The findings on this project, as approved by the Community Development Department, for compliance with the FPASP Minor Administrative Modification criteria are shown in parenthesis.

- The proposed modification is within the Plan Area.
(The proposed modifications are within the FPASP Plan Area.)
- The modification does not reduce the size of the proposed Town Center.
(The proposed Town Center is not a part of this project.)
- The modification maintains compliance with City Charter Article 7.08, previously known as Measure W.
(The proposed modifications comply with Measure W and exceed the amount of open space allocated to the property per the approved FPASP 2011 {as amended in the Broadstone Estates GPA/SPA June 2016}.)
- The general land use pattern remains consistent with the intent and spirit of the FPASP.
(The general land use pattern remains consistent with the intent and spirit of the FPASP.)
- The proposed changes do not substantially alter the backbone infrastructure network.
(The proposed changes do not alter the backbone infrastructure network.)
- The proposed modification offers equal or superior improvements to development capacity or standards.
(The proposed modifications do not alter development capacity or standards.)
- The proposed modification does not increase environmental impacts beyond those identified in the EIR/EIS.
(The proposed modifications do not increase environmental impacts beyond those identified in the EIR/EIS.)
- Relocated park or school parcels continue to meet the standards for the type of park or school proposed.
(There is no change to park or school locations.)
- Relocated park or school parcels remain within walking distance of the residents they serve.
(There is no change to park or school locations.)

LAND USE COMPATIBILITY

The 37.2+-acre project site is surrounded by vacant undeveloped property and Placerville Road to the west.

| | |
|-------|---|
| North | Highway 50. |
| East | Undeveloped property zoned Single Family Residential, Single Family High Density Residential, and Open Space. |
| West | Undeveloped property zoned General Commercial. |
| South | Undeveloped property zoned Single Family Residential, Single Family High Density Residential and Open Space. |

It is important to note that the project includes 12.5 acres of open space. This open space will contribute to the 30% open space requirement included in Measure W. As described above, the project site is located within a geographic area that will be dominated by single family residential development. Generally, the terrain is more suited for residential development and open space uses, much like those approved for the Russell Ranch and White Rock Springs Ranch projects. Given the residential nature of the project area combined with surrounding open space areas, staff has determined that the proposed project provides an ideal blend of residential and open space design that is compatible with existing land uses on the property and within the project vicinity.

VESTING (SMALL LOT) TENTATIVE SUBDIVISION MAP

The applicant is requesting approval of a Vesting Small Lot Tentative Subdivision Map (VSLTSM) (Attachment No. 3). The VSLTSM will further subdivide the project site into 81 single family lots. The minimum lot size is 6300 square feet. There are lots throughout the subdivision that are larger than the minimum lot size.

Open Space/Slopes

The grading concept for the proposed Broadstone Estates subdivision project is composed of a series of terraces as the development progresses up the hillside. In many ways, this project is designed to be an extension of the Russell Ranch project.

Grading

Similar to the grading concept approved for the proposed Russell Ranch subdivision, the proposed Broadstone Estates project grading plan proposes to create tiers of lots around the hillside as the tiers progress up the hill. The flat portion of each lot is the building pad while the slope will be within a lettered open space lot to be owned and maintained by a homeowner’s association (HOA). The building pad elevations have been designed to be compatible with the Russell Ranch project, thereby making the proposed final product seamless.

Staff is generally supportive of the grading concept with conditions. First, the slope will be visible off site, particularly to Highway 50. Therefore, it is important that the site be landscaped and maintained. Staff recommends that the slope portion of the lots be placed in an open space easement and that a Homeowners Association is required to monitor and maintain all of the slopes and landscaping. Additionally, the sound walls along the rear of the lots will be built upon the open space lots and maintained by the Homeowners Association.

Utilities

As provided for in the development agreement between the City and the Landowners south of Highway 50, each subdivision is required to build the portion of the offsite infrastructure system necessary to support the proposed project. In order to serve the proposed Broadstone Estates Trust development, staff recommends that the project be conditioned to build the sewer

alignment as shown in the VSLTSM exhibits. The sewer alignment will traverse southerly along Placerville Road, then westerly on Easton Valley Parkway, then southerly on Scott Road to the creek tributary, at which point it will turn to the west following the alignment shown on tentative subdivision map attachments. The water line will come from the north, under Highway 50 along Placerville Road. Both of these alignments are compatible with the plans for Russell Ranch and Mangini Ranch.

Parks and Recreation Commission

The Parks and Recreation Commission, at its February 2, 2016 meeting, recommended approval of the proposed Broadstone Estates project with the following conditions:

1. The Owner/Applicant will pay Parkland Dedication In-Lieu fees based on 0.0146 AC. per single-family unit resulting in a total parkland dedication requirement of 1.04 acres. The in-lieu fee shall be calculated based on a Complete Summary Appraisal prepared to establish a Fair Market Value as defined by the Folsom Municipal Code (FMC 16.32.040).
2. The Owner/Applicant will provide the proposed Class I bike trail alignments and connections consistent with the Bikeways Master Plan and Illustrative Master Plan for Broadstone Estates Exhibit dated October 8, 2015. The Owner/Applicant may enter into a construction reimbursement agreement with the City in the future to facilitate efficient delivery of the trail facilities to the public

Water Supply

Under current conditions, reflecting a multiple-year drought, all environmental work for south of Highway 50 has appropriately and sufficiently disclosed, analyzed, and discussed information relating to the availability of water supplies to serve this project. The following summary of the City's water supply planning for the FPASP area in dry years is provided in the interest of addressing the ongoing and expected continued interest in this issue.

The City is a party to the Water Forum Agreement, which represents a regional commitment by stakeholders in the long term health and sustainability of the American River to cooperate and fulfill two co-equal objectives: (1) to provide a reliable and safe water supply for the region's economic health and planned development to the year 2030; and (2) to preserve the fishery, wildlife, recreational, and aesthetic values of the lower American River. An EIR was prepared in 1999 that examined the effects of implementing the linked actions agreed to by the stakeholders to fulfill those objectives. As relevant to this project, these linked components include: actions to meet water users' needs during dry years while reducing diversion impacts, increased water conservation, and improved groundwater management, among other actions.

The Water Forum Agreement contains provisions by which purveyors (including the City of Folsom) agree to reduce their diversions from the Lower American River by specified levels in defined drier years. When diversions from this source must be reduced, the City meets its customers' water demands through conservation measures applied City-wide and also by entering into agreements with other purveyors that have access to both surface water and groundwater for an equivalent exchange of the amount of reductions needed by the City.

Consistent with its commitments under the Water Forum Agreement and the Water Conservation Act of 2009, the City has undertaken several water conservation and management improvements in recent years, including approval of the Water System Optimization Review (SOR) Project in 2012, which provides for leak detection, repairs to the City's existing water transmission and distribution facilities. The SOR project is being implemented, and the water savings achievable

through these repairs will make available a sufficient amount to supply the FPASP area with the 5,600 acre-feet per year that development within the plan area is currently estimated to require. The impacts of implementing these system improvements and applying the water savings to the FPASP area were reviewed in an Addendum to the FPASP EIR and considered and approved by the City Council in December 2012.

The proposed project would be served by the savings in existing City water supplies achieved through the SOR program described above, which may be used for all beneficial uses determined by the City, including developments south of U.S. 50. There is an existing Water Supply and Facilities Financing Plan and Agreement between the City and certain landowners in the FPASP, approved with the Addendum to the FPASP EIR in December 2012, which provides a framework for supplying water required in the Folsom Plan Area.

During multiple-dry years such as the current circumstances, the City has the authority to declare a water shortage condition under Chapter 13.26 of the Folsom Municipal Code, and implement increasingly more stringent stages of conservation, which limit many types of outdoor water use and water service in restaurants. A development agreement adopted in May 2014, to which the Broadstone Estates project applicant is a party, makes clear that this project area and these landowners are subject to the same water use cut-backs and limitations imposed in the rest of the City during such water shortage conditions.

The City's most recent Urban Water Management Plan (2010) considered the effects of implementing these stages of conservation, as required by law, and still concluded that the City would have sufficient supplies to serve existing residents and planned new growth in multiple dry years.

Accordingly, the proposed project's water demand can be accommodated by the City's existing water supplies and dry-year plans, without imposing additional hardship or otherwise further limiting the supplies available to serve the rest of the City's residents.

Phasing and Improvements

The subdivision is expected to be constructed in two phases. The first phase includes 40 lots and is directly connected to Placerville Road. Phase 2 includes the remaining 41 lots and completes the subdivision. Access to Phase 2 is via local streets within the Russell Ranch subdivision and ultimately to Alder Creek Parkway (formerly Easton Valley Parkway). The applicant has provided legal documents for access across the Russell Ranch property for these streets. Staff recommends that each phase be required to stand on its own as it pertains to access and infrastructure supply and construction. Grading is expected and will occur as each phase develops.

Street cross sections within the FPASP were used as the basis for the design of the street cross sections within the proposed project. All proposed street cross sections are shown on the VSLTSM. The City has inventoried its various types of decorative light poles and has found a decorative light fixture that will compliment and work well for the proposed project. It is expected that the fixture will be used throughout the entire FPASP.

PROJECT DESIGN GUIDELINES

The Broadstone Estates Design Guidelines outline the architectural requirements against which the future residences within the subdivision will be evaluated. These Design Guidelines mirror the adopted Russell Ranch Design Guidelines with the same seven styles of architecture included in the Broadstone Estates plan. Each developer will have to submit plans for design review

approval by the Planning Commission prior to construction of the homes. The Project Design Guidelines include a complete description of the process that will be followed to obtain said approvals.

The proposed Broadstone Estates project includes identical development standards as approved for the Russell Ranch Project. The Broadstone Estates project includes 60x105 foot lots (6,300 s.f.) and 65x105 foot lots (6,825 s.f.). Both of these lots include 50 percent lot coverage which is considered typical for this size of lot. The Table below includes the development standards for each lot size.

| Broadstone Estates Development Standards Table | | | | | | | |
|---|-----------------|------------------|--------------------------|---------------------------|--------------------------|---------------------------|------------------------------|
| | Lot Area | Lot Width | Building Coverage | Front Yard Setback | Rear Yard Setback | Side Yard Setbacks | Building Height limit |
| 60x105 | 6,300 | 60 feet | 50% | 17.5/23 feet | 15 feet | 5 & 10 feet | 35 feet |
| 65x105 | 6,825 | 65 feet | 50% | 17.5/23 feet | 15 feet | 5 & 10 feet | 30 feet |

Once the applicant has prepared the architectural plans for the proposed single family residential residences in the subdivision, an application for a Planned Development Permit will be submitted to the Planning Commission for review to ensure that the plans meet the Design Guidelines.

In addition to architecture, the Project Design Guidelines also detail the requirements for landscaping. There are various planting schemes called out throughout the project depending on the location within the subdivision. Finally, the Guidelines also address the streetscape and community design guidelines. This portion of the document outlines the provisions for street cross sections and landscaping. Staff has determined that the proposed Project Design Guidelines meet the intent, purposes, and standards set forth in the Specific Plan District, FMC Chapter 17.37.

INCLUSIONARY HOUSING PLAN

As specified in Chapter 17.104 of the Folsom Municipal Code, the developer of the Broadstone Estates project (Project) is required to submit an Inclusionary Housing Plan pursuant to Folsom Municipal Code Chapter 17.104, Section 17.104.040 (Inclusionary Housing Plan). The Project includes the development of 81 market rate residential units. Pursuant to Folsom Municipal Code Section 17.104.030, the Project shall provide inclusionary housing units equal to ten (10) percent of the total number of units in the project, including very-low income units equal to three (3) percent of the market rate units within the subdivision and low-income units equal to seven (7) percent of the market rate units. In this particular case, the developer, Elliott Homes, would be required to provide 8 inclusionary housing units within the Broadstone Estates development. However, the Inclusionary Housing Ordinance also provides for use of alternative means by developers to satisfy their inclusionary housing requirement.

Pursuant to FMC Section 17.104.060, alternative means for satisfying the aforementioned requirement include: providing the units off site; dedicating land for other affordable development projects; acquisition, rehabilitation, and conversion of existing market rate units; conversion of existing market rate units; paying an in-lieu fee, or other methods as approved by the City Council. Hence, as an alternative means to constructing the 8 affordable housing units

on the project site, and as provided for by Folsom Municipal Code Section 17.104.060, the developer proposes an Inclusionary Housing Plan that complies with Chapter 17.104 by payment of an in-lieu fee (Folsom Municipal Code Section 17.104.060(G)). The in-lieu fee shall be calculated by multiplying one percent of the lowest priced for-sale residential unit within the Broadstone Estates subdivision by the total number of for-sale residential units within the proposed subdivision and shall be payable at the time of building permit issuance on a per-unit basis. An Inclusionary Housing Plan for this project is attached to the Staff Report as Attachment No. 7.

In addition, staff recommends that the applicant prepare an Inclusionary Housing Agreement, which will be subject to review and approval by City Council. Pursuant to Folsom Municipal Code Section 17.104.100(C), a condition of approval has been added to this project to enforce the requirements of the Inclusionary Housing Plan and to condition approval of future entitlements on execution and recordation of, and compliance with, an Inclusionary Housing Agreement.

ENVIRONMENTAL REVIEW

An Environmental Impact Report (“EIR”) was certified for the Folsom Plan Area Specific Plan project in accordance with the California Environmental Quality Act (CEQA). An addendum to the Folsom Plan Area Environmental Impact Report was prepared and certified on June 28, 2016, in association with approval of the General Plan Amendment, Amendment to the Folsom Plan Area Specific Plan, and approval of the First Amended and Restated Tier 1 Development Agreement for this project.

CEQA and the CEQA Guidelines identify criteria for determining whether a subsequent EIR is required for a project with a previously approved EIR. Further detailed analysis and public review are required only if proposed changes to the project would require “major revisions” to the previously approved EIR due to new significant environmental impacts or a substantial increase in the severity of previously identified significant impacts. (Public Resources Code § 21166; CEQA Guidelines § 15162.) In approving the Addendum to the Folsom Plan Area Specific Plan EIR for the Broadstone Estates general plan amendment, specific plan amendment, and development agreement amendment, City Council found that none of the conditions described in those code sections calling for the preparation of a subsequent EIR had occurred.

The entitlements at issue here are consistent with the Broadstone Estates Addendum to the Folsom Plan Area Specific Plan EIR/EIS, and all mitigation measures have been applied as conditions of approval for this project. In addition, none of the conditions described in Section 21166 of the Public Resources Code or Section 15162 of the CEQA Guidelines calling for the preparation of a subsequent EIR have occurred. Therefore, no additional environmental review is required under CEQA.

RECOMMENDATION/PLANNING COMMISSION ACTION

MOVE TO RECOMMEND THAT THE CITY COUNCIL APPROVE THE VESTING SMALL LOT TENTATIVE SUBDIVISION MAP CREATING EIGHTY ONE SINGLE-FAMILY RESIDENTIAL LOTS AS ILLUSTRATED ON ATTACHMENTS 2 THROUGH 8 FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT;

AND

MOVE TO RECOMMEND THAT THE CITY COUNCIL APPROVE THE INCLUSIONARY HOUSING PLAN FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT PER ATTACHMENT NO. 7;

AND

MOVE TO RECOMMEND THAT THE CITY COUNCIL APPROVE THE PROJECT DESIGN GUIDELINES FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT AS ILLUSTRATED ON ATTACHMENT 8 WITH THE FOLLOWING FINDINGS AND CONDITIONS (Nos. 1-189).

GENERAL FINDINGS

- A. NOTICE OF THIS HEARING HAS BEEN GIVEN AT THE TIME AND IN THE MANNER REQUIRED BY STATE LAW AND CITY CODE.

- B. THE PROPOSED PROJECT IS CONSISTENT WITH THE GENERAL PLAN, AS AMENDED BY THE BROADSTONE ESTATES GENERAL PLAN AMENDMENT, THE ZONING CODE OF THE CITY, AND THE FOLSOM PLAN AREA SPECIFIC PLAN, AS AMENDED BY THE BROADSTONE ESTATES SPECIFIC PLAN AMENDMENT.

CEQA FINDINGS

- A. A FINAL ENVIRONMENTAL IMPACT REPORT WAS PREVIOUSLY CERTIFIED FOR THE FOLSOM PLAN AREA SPECIFIC PLAN IN ACCORDANCE WITH CEQA AND AN ADDENDUM TO THAT EIR WAS ADOPTED FOR THE BROADSTONE ESTATES GENERAL PLAN AMENDMENT, SPECIFIC PLAN AMENDMENT, AND DEVELOPMENT AGREEMENT AMENDMENT.

- B. THIS PROJECT IS CONSISTENT WITH THE FOLSOM PLAN AREA SPECIFIC PLAN, AS AMENDED BY THE BROADSTONE ESTATES SPECIFIC PLAN AMENDMENT.

- C. NONE OF THE CONDITIONS DESCRIBED IN SECTION 21166 OF THE PUBLIC RESOURCES CODE OR SECTION 15162 OF THE CEQA GUIDELINES CALLING FOR THE PREPARATION OF A SUBSEQUENT EIR HAVE OCCURRED.

- D. THE FEASIBLE MITIGATION MEASURES SPECIFIED IN THE FOLSOM PLAN AREA SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT AND BROADSTONE ESTATES CERTIFIED ADDENDUM WILL BE IMPLEMENTED FOR THE PROPOSED VESTING SMALL LOT TENTATIVE SUBDIVISION MAP AND THE BROADSTONE ESTATES DESIGN GUIDELINES, CONSISTENT WITH CEQA GUIDELINES SECTION 15183(e).

VESTING TENTATIVE SUBDIVISION MAP FINDINGS

- E. THE PROPOSED VESTING SMALL LOT TENTATIVE SUBDIVISION MAP IS CONSISTENT WITH THE CITY'S SUBDIVISION ORDINANCE AND THE SUBDIVISION MAP ACT IN THAT THE PROJECT IS SUBJECT TO CONDITIONS

OF APPROVAL THAT WILL ENSURE THAT THE PROJECT IS DEVELOPED IN COMPLIANCE WITH CITY STANDARDS.

- F. THE PROPOSED VESTING SMALL LOT TENTATIVE SUBDIVISION MAP , TOGETHER WITH THE PROVISIONS FOR ITS DESIGN AND IMPROVEMENT, IS CONSISTENT WITH THE GENERAL PLAN, AS AMENDED BY THE BROADSTONE ESTATES GENERAL PLAN AMENDMENT, THE FOLSOM PLAN AREA SPECIFIC PLAN, AS AMENDED BY THE BROADSTONE ESTATES SPECIFIC PLAN AMENDMENT, AND ALL APPLICABLE PROVISIONS OF THE FOLSOM MUNICIPAL CODE.
- G. THE PROJECT SITE IS PHYSICALLY SUITABLE FOR THE TYPE OF DEVELOPMENT PROPOSED.
- H. THE PROJECT SITE IS PHYSICALLY SUITABLE FOR THE PROPOSED DENSITY OF DEVELOPMENT.
- I. AS CONDITIONED, THE DESIGN OF THE VESTING SMALL LOT TENTATIVE SUBDIVISION MAP AND THE PROPOSED IMPROVEMENTS ARE NOT LIKELY TO CAUSE ENVIRONMENTAL DAMAGE OR SUBSTANTIALLY AND AVOIDABLY INJURE FISH OR WILDLIFE OR THEIR HABITAT.
- J. THE DESIGN OF THE VESTING SMALL LOT TENTATIVE SUBDIVISION MAP AND THE PROPOSED IMPROVEMENTS ARE NOT LIKELY TO CAUSE SERIOUS PUBLIC HEALTH OR SAFETY PROBLEMS.
- K. THE DESIGN OF THE VESTING SMALL LOT TENTATIVE SUBDIVISION MAP AND THE TYPE OF IMPROVEMENTS WILL NOT CONFLICT WITH EASEMENTS FOR ACCESS THROUGH OR USE OF PROPERTY WITHIN THE PROPOSED SUBDIVISION.
- L. SUBJECT TO SECTION 66474.4 OF THE SUBDIVISION MAP ACT, THE LAND IS NOT SUBJECT TO A CONTRACT ENTERED INTO PURSUANT TO THE CALIFORNIA LAND CONSERVATION ACT OF 1965 (COMMENCING WITH SECTION 51200 OF THE GOVERNMENT CODE).

Respectfully Submitted,



DAVID E. MILLER, AICP
Community Development Director

RESPONSIBLE DEPARTMENT**WHEN REQUIRED**

| | | | |
|--------|--|----|--|
| CD (P) | Community Development Department Planning Division | I | Prior to approval of Improvement Plans Prior to approval of Final Map |
| (E) | Engineering Division | M | |
| (B) | Building Division | B | Prior to issuance of first Building Permit |
| FD | Fire Division | O | Prior to approval of Occupancy Permit |
| EWR | Environmental & Water Resources Department | G | Prior to issuance of Grading Permit |
| PW | Public Works Department | OG | On-going requirement |
| PR | Park and Recreation Department | | |
| PD | Police Department | | |
| CDFW | California Department of Fish and Wildlife | | |
| USFWS | United States Fish and Wildlife Service | | |
| USACE | United States Army Corps of Engineers | | |
| SMAQMD | Sacramento Metropolitan Air Quality Management District | | |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|--|---------------|------------------------|
| 1. | <p>Final Development Plans The owner/applicant shall submit final site development plans to the Community Development Department that shall substantially conform to the exhibits referenced below:</p> <ol style="list-style-type: none"> 1. Small Lot Vesting Tentative Subdivision Map dated 3-9-17 2. Preliminary Grading and Drainage Plan dated 3-9-17 3. Preliminary Utility Plan dated 3-9-17 4. Preliminary Offsite Improvements Plan dated 3-9-17 5. Russell Ranch and Broadstone Estates at Russell Ranch Design Guidelines 6. Inclusionary Housing Plan <p>The Vesting Small Lot Tentative Subdivision Map, Russell Ranch and Broadstone Estates at Russell Ranch Design Guidelines and Inclusionary Housing Plan are approved for the development of a 81 lot single family residential subdivision (Broadstone Estates Subdivision). Implementation of the project shall be consistent with the above referenced items and these conditions of approval.</p> | G, I, M, B | CD (P)(E) |
| 2. | <p>Plan Submittal All civil engineering, improvement, and landscape and irrigation plans, shall be submitted to the Community Development Department for review and approval to ensure conformance with this approval and with relevant codes, policies, standards and other requirements of the City of Folsom.</p> | G, I, M, | CD (P)(E)(B) |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|---|---------------|---|
| 3. | <p>Validity This approval of the Vesting Small Lot Tentative Subdivision Map, Design Guidelines, and Inclusionary Housing Plan shall be valid for the term specified in Amendment No. 1 to the ARDA, and any amendments thereto, for the project, or for a period of twenty four months, whichever is longer, but in no event for a shorter period than the maximum period of time permitted by the Subdivision Map Act. Pursuant to Section 2.2 of Amendment No. 1 to ARDA, the term of the Project Design Guidelines shall track the term of the maps.</p> | OG | CD (P) |
| 4. | <p>Improvements in the PFFP The owner/applicant shall be subject to all thresholds, timelines and deadlines for the construction and final completion of various improvements for the entire Folsom Plan Area. The various improvements are outlined and detailed in the Folsom Plan Area Specific Plan Public Facilities Financing Plan (PFFP) dated January 28, 2014 and adopted by City of Folsom Resolution No. 9298. These improvements in the PFFP include, but are not limited to, the backbone infrastructure water (water reservoirs, water transmission mains, booster pump stations, pressure reducing valve stations, etc.), sanitary sewer (lift stations and forced mains) systems, recycled water mains and associated infrastructure, roadway and transportation (future interchanges, major arterial roadways, etc.) improvements, aquatic center (community pool), parks, fire stations, municipal services center, community library, etc. The thresholds and timelines included in the PFFP require facilities to be constructed and completed based on number of building permits issued and in some cases, number of residential units that are occupied. The owner/applicant shall be required to address these thresholds and timelines as the project moves forward through the various development stages and shall be subject to the various fair share requirements, subject to the provisions of the PFFP, the ARDA and any amendment thereto.</p> | M | PFFP, M,B CDD(E)(P)(B), PW, FD, EWR, PR |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|--|---------------|-----------------------------------|
| 5. | <p><i>Indemnity for City</i> The owner/applicant shall protect, defend, indemnify, and hold harmless the City and its agents, officers and employees from any claim, action or proceeding against the City or its agents, officers or employees to attack, set aside, void, or annul any approval by the City or any of its agencies, departments, commissions, agents, officers, employees, or legislative body concerning the project, which claim, action or proceeding is brought within the time period provided therefore in Government Code Section 66499.37 or other applicable statutes of limitation. The City will promptly notify the owner/applicant of any such claim, action or proceeding, and will cooperate fully in the defense. If the City should fail to cooperate fully in the defense, the owner owner/applicant shall not thereafter be responsible to defend, indemnify and hold harmless the City or its agents, officers, and employees, pursuant to this condition. The City may, within its unlimited discretion, participate in the defense of any such claim, action or proceeding if both of the following occur:</p> <ul style="list-style-type: none"> • The City bears its own attorney's fees and costs; and • The City defends the claim, action or proceeding in good faith <p>The owner/applicant shall not be required to pay or perform any settlement of such claim, action or proceeding unless the settlement is approved by the owner/applicant. The owner/applicant's obligations under this condition shall apply regardless of whether a Final Map is ultimately recorded with respect to this project.</p> | OG | CD (P)(E)(B) PW, PR, FD, PD |
| 6. | <p><i>Vesting Tentative Subdivision Map</i> The vesting tentative subdivision map is expressly conditioned upon compliance with all environmental mitigation measures in the Folsom Plan Area Specific Plan (FEIR/EIS) and the Broadstone Estates Addendum.</p> | OG | CD |
| 7. | <p><i>ARDA and Amendments</i> The owner/applicant shall comply with all provisions of Amendment No. 1 to the ARDA and any approved amendments by and between the City and the landowner/developer of the project.</p> | G, I, M, B | CD (E) |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|---|--|---------------|------------------------|
| 8. | <p>Mitigation Monitoring The owner/applicant shall be required to participate in a mitigation monitoring and reporting program pursuant to City Council Resolution No. 2634 and Public Resources Code 21081.6. The mitigation monitoring and reporting measures identified in the Folsom Plan Area Specific Plan FEIR/EIS have been incorporated into these conditions of approval in order to mitigate or avoid significant effects on the environment. These mitigation monitoring and reporting measures are identified in the mitigation measure column. Applicant shall fund on a Time and Materials basis all mitigation monitoring (e.g., staff and consultant time).</p> | OG | CD (P) |
| POLICE/SECURITY REQUIREMENT | | | |
| 9. | <p>The owner/applicant shall consult with the Police Department in order to incorporate all reasonable crime prevention measures. The following security/safety measures shall be considered: A security guard on-duty at all times at the site or a six-foot security fence shall be constructed around the perimeter of construction areas. Security measures for the safety of all construction equipment and unit appliances. Landscaping shall not cover exterior doors or windows, block line-of-sight at intersections or screen overhead lighting.</p> | G, I, B | PD |
| DEVELOPMENT COSTS AND FEE REQUIREMENTS | | | |
| 10. | <p>Taxes and Fees The owner/applicant shall pay all applicable taxes, fees and charges for the project at the rate and amount required by the Public Facilities Financing Plan and the Amended and Restated Development Agreement.</p> | OG | CD (P)(E) |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|--|---------------|------------------------|
| 11. | <p><i>Assessments</i> If applicable, the owner/applicant shall pay off any existing assessments against the property, or file necessary segregation request and pay applicable fees.</p> | OG | CD (E) |
| 12. | <p><i>FPASP Development Impact Fees</i> The owner/applicant shall be subject to all Folsom Plan Area Specific Plan Area development impact fees in place at the time of approval or subsequently adopted consistent with the Public Facilities Financing Plan (PFFP), Development Agreement and amendments thereto, unless exempt by previous agreement. The owner/applicant shall be subject to all applicable Folsom Plan Area plan-wide development impact fees in effect at such time that a building permit is issued. These fees may include, but are not limited to, the Folsom Plan Area Specific Plan Fee, Specific Plan Infrastructure Fee (SPIF), Solid Waste Fee, Corporation Yard Fee, Transportation Management Fee, Transit Fee, Highway 50 Interchange Fee, General Park Equipment Fee, Housing Trust Fee, etc.</p> <p>Any protest to such for all fees, dedications, reservations or other exactions imposed on this project will begin on the date of final approval (____), or otherwise shall be governed by the terms of Amendment No. 1 to the ARDA. The fees shall be calculated at the fee rate set forth in the PFFP and the ARDA.</p> | B | CD (P) PW, PK |
| 13. | <p><i>Legal Counsel</i> The City, at its sole discretion, may utilize the services of outside legal counsel to assist in the implementation of this project, including, but not limited to, drafting, reviewing and/or revising agreements and/or other documentation for the project. If the City utilizes the services of such outside legal counsel, the City shall provide notice to the owner/applicant of the outside counsel selected, the scope of work and hourly rates, and the owner/applicant shall reimburse the City for all outside legal fees and costs incurred and documented by the City for such services. The owner/applicant may be required, at the sole discretion of the City Attorney, to submit a deposit to the City for these services prior to initiation of the services. The owner/applicant shall be responsible for reimbursement to the City for the services regardless of whether a deposit is required.</p> | OG | CD (P)(E) |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------------------------------------|--------------------|---|---------------|------------------------|
| 14. | | <p>Consultant Services If the City utilizes the services of consultants to prepare special studies or provide specialized design review or inspection services for the project, the City shall provide notice to the owner/applicant of the outside consultant selected, the scope of work and hourly rates, and the owner/applicant shall reimburse the City for actual costs incurred and documented in utilizing these services, including administrative costs for City personnel. A deposit for these services shall be provided prior to initiating review of the Grading Plan, Final Map, improvement plans, or beginning inspection, whichever is applicable.</p> | G,I,M,B | CD (P)(E) |
| GRADING PERMIT REQUIREMENTS | | | | |
| 15. | | <p>Phasing Plan The owner/applicant shall prepare a complete and comprehensive phasing plan and shall submit the phasing plan to the City for each proposed phase of development. The phasing plan shall include all required infrastructure for each proposed phase of development. The infrastructure shall include all required on-site and off-site improvements, including but not limited to, water system improvements (distribution and transmission mains, booster pump stations, water reservoirs, PRV stations, etc.), Recycled water mains and associated infrastructure, sanitary sewer improvements (sewer mains, lift stations, forced mains, etc.) roadway and transportation improvements, storm drainage improvements (detention/water quality basins, outfalls, etc.) and all other necessary improvements required for each phase of development. The phasing plan shall include itemized cost estimates for all required improvements and the phasing plan shall be reviewed and approved by the City prior to approval of grading and/or improvements plans.</p> | G,I,M, | CDD(E), EWR, PW, FD |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|-----------|--------------------|---|---------------|------------------------|
| 15. cont. | | <p>The City Engineer may condition the phasing to ensure that each phase functions independently and is consistent with the minimum utility and access standards of the City. All maps filed in phases will be required to have two points of access for vehicle access and/or general traffic purposes for each phase and all off-site utilities deemed necessary as determined by the City Engineer.</p> <p>Improvement plans for all phases that include half sections of streets shall include a minimum of 15 feet of pavement over the centerline, to allow two-way traffic and shall be subject to approval of the Community Development Department and Fire Department.</p> <p>The City will not dictate the order of the phasing provided that the first phase meets the following requirements;</p> <ol style="list-style-type: none"> 1. All off site utilities (i.e. water, sanitary sewer, recycled water, storm drainage, roadway improvements, etc.) necessary to serve the project shall be completed and accepted by the City Engineer. | G, I, M | |
| 16. | | <p><i>Off-site improvements / Rights of Entry</i> For any improvements constructed on private property that are not under the ownership or control of the owner/applicant (and are not subject to the provisions of the Amended and Restated Development Agreement between the City of Folsom and the property owner), all rights-of-entry, and if necessary, and any permanent easements shall be obtained and provided to the City.</p> <p>All rights of entry, construction easements, either permanent or temporary and other easements shall be obtained and shall be fully executed by all affected parties and shall be recorded with the Sacramento County Recorder, where applicable, prior to approval of grading and/or improvement plans.</p> | G,I | CD (E) |

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|-----|--------------------|--|---------------|------------------------|
| 17. | 3A 7-1a | <p>Geotechnical Report Prior to the issuance of any grading permit, the owner/applicant shall have a geotechnical report prepared by an appropriately licensed engineer that includes an analysis of site preparation, soil bearing capacity, appropriate sources and types of fill, potential need for soil amendments, road, pavement and parking areas, structural foundations, including retaining wall designs, grading practices, soil corrosion of concrete and steel, erosion /winterization, seismic ground shaking, liquefaction and expansive/unstable soils.</p> | G | CD (E) |
| 18. | 3A 7-1a | <p>Geotechnical Recommendations The owner/applicant shall submit to the Engineering Division, for review and approval, a grading plan for the project site which ensures that all geotechnical recommendations specified in the geotechnical report are properly incorporated and utilized in the design.</p> | G | CD (E) |
| 19. | 3A 7-1b | <p>Geotechnical Monitoring Program The owner/applicant shall contract with a geotechnical engineer who shall develop a program to monitor the site during construction to ensure compliance with the recommendations presented in the geotechnical report(s) and conditions for performing such monitoring. The geotechnical monitoring program shall include a description of the improvements areas where geotechnical monitoring shall be required. The completed program shall be submitted to the City prior to approval of any grading and/or improvement plan.</p> | G | CD (P) CD (E) (B) |

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| 20. | 3A.7-4 | <p><i>Prepare a Seismic Refraction Survey and Obtain Appropriate Permits for all On-Site and Off-site Elements East of Old Placerville Road.</i></p> <p>Before the start of all construction activities east of Old Placerville Road, owner/applicant shall retain a licensed geotechnical engineer to perform a seismic refraction survey. Project-related excavation activities shall be carried out as recommend by the geotechnical engineer. Excavation may include the use of heavy-duty equipment such as large bulldozers or large excavators, and may include blasting. Appropriate permits for blasting operations shall be obtained from the relevant City or county jurisdiction, if applicable, prior to the start of any blasting activities.</p> <p>Mitigation for the off-site elements outside of the City of Folsom's jurisdictional boundaries shall be coordinated by owner/ applicant with the affected oversight agency(ies) (i.e., El Dorado and/or Sacramento Counties).</p> | G | CD (E) |

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| 21. 3B.7-1a | <p><i>Prepare Geotechnical Report(s) for the Off-site Water Facilities and Implement Required Measures.</i></p> <p>The owner/applicant shall provide a comprehensive facility design for all proposed Off-site Water Facility improvements and shall comply with the site-specific design recommendations as provided by a licensed geotechnical or civil engineer. The final geotechnical and/or civil engineering report shall address and make recommendations on the following:</p> <ul style="list-style-type: none"> ▶ site preparation; ▶ soil bearing capacity; ▶ appropriate sources and types of fill; ▶ potential need for soil amendments; ▶ road, pavement, and parking areas; ▶ structural foundations, including retaining-wall design; ▶ grading practices; ▶ soil corrosion of concrete and steel; ▶ erosion/winterization; ▶ seismic ground shaking; ▶ liquefaction; and ▶ expansive/unstable soils. <p>In addition to the recommendations for the conditions listed above, the geotechnical investigation shall include subsurface testing of soil and groundwater conditions, and shall determine appropriate foundation designs that are consistent with the version of the California Building Code that is applicable at the time building and grading permits are applied for. All recommendations contained in the final geotechnical engineering report shall be implemented by the owner/applicant.</p> | G, I | CD (E)(EWR) |
| 22. 3B.7-1b | <p><i>Incorporate Pipeline Failure Contingency Measures Into Final Pipeline Design.</i></p> <p>Isolation valves or similar devices shall be incorporated into all pipeline facilities to prevent substantial losses of surface water in the event of pipeline rupture, as recommended by a licensed geotechnical or civil engineer. The specifications of the isolation valves shall conform to the California Building Code and American Water Works Association (AWWA) standards.</p> | I | EWR, CD (E) |

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| 23. | <p>Mine Shaft Remediation The owner/applicant shall locate and remediate all antiquated mine shafts, drifts, open cuts, tunnels, and water conveyance or impoundment structures existing on the project site, with specific recommendations for the sealing, filling, or removal of each that meet all applicable health, safety and engineering standards. Recommendations shall be prepared by an appropriately licensed engineer or geologist. All remedial plans shall be reviewed and approved by the City prior to approval of grading plans.</p> | G | CD (E) |
| 24. | <p>Material Storage Areas The owner/applicant shall locate staging and material storage areas as far away from sensitive biological resources and sensitive land uses (e.g., residential areas, schools, parks) as feasible. Staging and material storage areas shall be screened from adjacent occupied land uses in earlier development phases to the maximum extent practicable. Screens may include, but are not limited to, the use of visual barriers such as berms or fences. Staging and material storage areas shall be shown on all grading and/or improvement plans prior to plan approval by the City.</p> | G | CD (P) CD (E) (B) |
| 25. | <p>Retaining Walls All retaining walls constructed on the open space lots or in any area visible to the public shall be constructed of rockery or split face masonry block. If the adjoining portion of the Russell Ranch subdivision (located to the south and east of the subject property) has been constructed or is approved to be constructed prior to construction of the Broadstone Estates Subdivision, the materials to be used for the retaining walls for the Broadstone Estates project shall be the same as those used on the Russell Ranch project.</p> | G | CD (P) (E) |

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| 26. 3A 14-1 | <p>Traffic and Parking Management Plan</p> <p>Prior to the approval of the grading plan and or construction, the owner/applicant shall prepare a construction traffic and parking management plan to the satisfaction of the City Traffic Engineer and subject to review by any affected agencies, if necessary. The plan shall ensure that acceptable operating conditions on local roadways and freeway facilities are maintained. Measures typically used in traffic control plans include advertising of planned lane closures, warning signage, a flagperson to direct traffic flows when needed, and methods to ensure continued access by emergency vehicles. During project construction, access to existing land uses shall be maintained at all times, with detours used as necessary during road closures. At a minimum, the plan shall include the following:</p> <ul style="list-style-type: none"> • Description of trucks including number and size of trucks per day (i.e., 85 trucks per day), expected arrival/departure times, and truck circulation patterns. • Description of staging area including location, maximum number of trucks simultaneously permitted in staging area, use of traffic control personnel, and specific signage. • Description of street closures and/or bicycle and pedestrian facility closures including duration, advance warning and posted signage, safe and efficient access routes for existing businesses and emergency vehicles, and use of manual traffic control. • Description of driveway access plan including provisions for safe vehicular, pedestrian, and bicycle travel, minimum distance from any open trench, special signage, and private vehicle access. | G | CD (E), PW |

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| 27. | <p>Prepare Traffic Control Plan.</p> <p>Prior to construction, a Traffic Control Plan for roadways and intersections affected by construction shall be prepared. The Traffic Control Plan shall designate haul routes and comply with requirements in the encroachment permits issued by the City of Rancho Cordova, Sacramento County, and Caltrans and any other local agencies, including but not limited to the City, if applicable. The Traffic Control Plan to be prepared by the project construction contractor(s) shall, at minimum, include the following measures:</p> <ul style="list-style-type: none"> ▲ Maintaining the maximum amount of travel lane capacity during non-construction periods, possible, and advanced notice to drivers through the provision of construction signage. ▲ Maintaining alternate one-way traffic flow past the lay down area and site access when feasible. ▲ Heavy trucks and other construction transport vehicles shall avoid the busiest commute hours (7 a.m. to 8 a.m. and 5 p.m. to 6 p.m. on weekdays). ▲ A minimum 72-hour advance notice of access restrictions for residents, businesses, and local emergency response agencies. This shall include the identification of alternative routes and detours to enable for the avoidance of the immediate construction zone. ▲ A phone number and community contact for inquiries about the schedule of the construction throughout the construction period. This information will be posted in a local newspaper, via the City's web site, or at City Hall and will be updated on a monthly basis. | G | CD (E) |

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| 28. | <p><i>Assess Pre-Off-site Water Facilities Roadway Conditions.</i></p> <p>Prior to construction, the owner/applicant shall be responsible for assessing current road conditions for off-site improvement haul routes including the local access roads and develop post construction road restoration requirements. As part of the encroachment permitting process, an agreement shall be entered into with applicable jurisdictions prior to construction that details post construction road restoration requirements. Staff with Sacramento County or Folsom shall review the post construction restoration standards for each of the affected roadways. The owner/applicant shall perform roadway repairs or rehabilitation as necessary such that post construction requirements are met.</p> | G | CD (E) |
| 29. 3A.2-4a 3A.2-4b | <p><i>Develop and Implement a Plan to Reduce Exposure of Sensitive Receptors to Construction-Generated Toxic Air Contaminant Emissions.</i></p> <p>The owner/applicant(s) shall develop a plan to reduce the exposure of sensitive receptors to TACs generated by project construction activity. Each plan shall be developed by the owner/applicant(s) in consultation with SMAQMD. The plan shall be submitted to the City for review and approval before the approval of any grading plans.</p> <p>The plan may include such measures as scheduling activities when the residences are the least likely to be occupied, requiring equipment to be shut off when not in use, and prohibiting heavy trucks from idling for more than 3 minutes. Applicable measures shall be included in all project plans and specifications for all project phases.</p> <p>Signs shall be posted at all truck loading areas which indicate that diesel-powered trucks must be shut off when not in use for longer than 3 minutes on the premises in order to reduce idling emissions.</p> <p>The implementation and enforcement of all measures identified in each plan shall be funded by the owner/applicant for the respective phase of development.</p> | G | CD (E) SMAQMD |

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| 30. 3B.2-3b | <p><i>Conduct Project-Level Diesel Particulate Matter (DPM) Screening and Implement Measures to Reduce Annual DPM to Acceptable Concentrations.</i></p> <p>Screening-level DPM assessments shall be conducted for diesel-powered pump operations proposed within 200 feet of residences or other sensitive receptors. These analyses should include exact distances between the receptors and operations, and include the actual DPM emissions for the engines proposed. If the analysis shows an annual average DPM concentration from project operations at residences within 200 feet of the DPM source to be greater than 0.024 µg/m³, the engine location shall be moved to a location where the annual average DPM concentration from project emissions at the residences is less than 0.024 µg/m³. The acceptable concentration of 0.024 µg/m³ was determined using the current OEHHA cancer potency factor and methodology for diesel exhaust (OEHHA 2003). If diesel exhaust concentrations at the affected receptor would be below 0.024 µg/m³, then the cancer health risk would be less than 9.9 cancers in a million population.</p> | G | CD (E)(P) |

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| 31, 3B 4-1a | <p><i>Implement Greenhouse Gas Reduction Measures during Construction.</i></p> <p>Prior to approval of a grading permit, the owner/applicant(s) shall stipulate that these measures be implemented within the project notes.</p> <ol style="list-style-type: none"> 1) Construction vehicles and equipment will be properly maintained at all times in accordance with manufacturer's specifications, including proper tuning and timing of engines. Equipment maintenance records and equipment design specification data sheets shall be kept on-site during construction and demolition activities and subject to inspection by the Sacramento Metropolitan Air Quality Management District (SMAQMD). 2) Operators will turn off all construction vehicles and equipment and all delivery vehicles when not in use, and not allow idling for more than 3 minutes or for such other more restrictive time as may be required in law or regulation. 3) On-site construction vehicles and equipment will use Air Resources Board (ARB)-certified biodiesel fuel if available (a minimum of B20, or 20 percent of biodiesel) except for those with warranties that would be voided if B20 biodiesel fuel were used. Prior to issuance of grading or demolition permits, the contractor shall provide documentation to the City that verifies whether any equipment is exempt; that a biodiesel supply has been secured; and that the construction contractor is aware that the use of biodiesel is required. 4) A Solid Waste Diversion and Recycling Plan (or such other documentation to the satisfaction of the City) shall be in place that demonstrates the diversion from landfills and recycling of all nonhazardous, salvageable and re-useable wood, metal, plastic and paper products during construction and demolition activities. The Plan or other documentation shall include the name of the waste hauler, their assumed destination for all waste and recycled materials, and the procedures that will be followed to ensure implementation of this measure. | G | CDD(E), (P) |

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| 31. cont. | <p>For those areas that would be disturbed as part of the U.S. 50 interchange improvements, it is anticipated that Caltrans would coordinate with the development and implementation of the overall project SWPPP, or develop and implement its own SWPPP specific to the interchange improvements, to ensure that water quality degradation would be avoided or minimized to the maximum extent practicable.</p> <p>Mitigation for the off-site elements outside of the City of Folsom's jurisdictional boundaries shall be coordinated by the owner/applicant of each applicable project phase with El Dorado County and Caltrans.</p> | | |
| 32. | <p><i>Implement Additional Measures to Control Construction-Generated Greenhouse Gas Emissions</i></p> <p>Prior to approval of a grading permit, the owner/applicant(s) shall obtain the most current list of greenhouse gas reduction measures that are recommended by Sacramento Metropolitan Air Quality Management District (SMAQMD) and stipulate how those measures be implemented within the project notes. The owner/ applicant(s) may submit to the City and SMAQMD a report that substantiates why specific measures are considered infeasible for construction of that particular development phase and/or at that point in time. The report, including the substantiation for not implementing particular greenhouse gas reduction measures, shall be approved by the City, in consultation with SMAQMD prior to approval of a grading permit. In addition to SMAQMD-recommended measures, construction activity shall comply with all applicable rules and regulations established by SMAQMD and California Air Resources Board.</p> | G | CD (E)(P) SMAQMD CARB |

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| 33. 3A.2-1g | <p><i>Pay Off-site Mitigation Fee to SMAQMD to Off-Set NOX Emissions Generated by Construction of Off-site Elements.</i></p> <p>The off-site elements could result in construction-generated NOX emissions that exceed the SMAQMD threshold of significance, even after implementation of the SMAQMD Enhanced Exhaust Control Practices (listed in Mitigation Measure 3A.2-1a). Therefore, the owner/applicant shall pay SMAQMD an off-site mitigation fee for implementation of each off-site element in for the purpose of reducing NOX emissions to a less-than-significant level (i.e., less than 85 lb/day).</p> <p>The specific fee amounts shall be calculated when the daily construction emissions can be more accurately determined. Calculation of fees associated with each off-site element shall be conducted by the owner/applicant in consultation with SMAQMD staff before the approval of respective grading plans. The calculation of daily NOX emissions shall be based on the cost rate established by SMAQMD at the time the calculation and payment are made. Because the fee is based on the mass quantity of emissions that exceed SMAQMD's daily threshold of significance of 85 lb/day, total fees for construction of the off-site improvements would vary according to the timing and potential overlap of construction schedules for off-site elements.</p> <p>Mitigation for the off-site improvements outside of the City of Folsom's jurisdictional boundaries shall be developed by the owner/applicant of each applicable project phase in consultation with the affected oversight agency(ies) (i.e., Sacramento County or Caltrans).</p> | G | CD (E)(P) SMAQMD |

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| 34. | <p>3B.2-1a</p> | <p><i>Develop and Implement a Construction NOX Reduction Plan.</i></p> <p>Consistent with SMAQMD requirements, the owner/applicant shall provide a plan for demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20% NOX reduction.</p> <p>Prior to construction, the owner/applicant's contractor shall submit to the SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted quarterly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the owner/applicant shall provide SMAQMD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.</p> | G,I | SMAQMD |

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| 35. | 3B.2-1b | <p><i>Conduct Visible Emissions Testing and if Non-Compliance, Repair Equipment Immediately.</i></p> <p>The owner/applicant shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour. Any equipment found to exceed 40% opacity (or Ringelmann 2.0) shall be repaired immediately, and the City and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least monthly, and a quarterly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.</p> | G,I | CD (E)(P) SMAQMD |
| 36 | 3A 2-2 | <p><i>Folsom Plan Area Specific Plan Air Quality Mitigation Plan</i></p> <p>The owner/applicant shall implement all applicable measures in the Sacramento Metropolitan Air Quality Management District approved Folsom Plan Area Specific Plan Air Quality Mitigation Plan.</p> | G, I, B | Sacramento Metropolitan Air Quality Management District CD (E) (P) |

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| 37 | 3A2-5 | <p><i>Naturally Occurring Asbestos</i></p> <p>Prior to the commencement of any site-disturbing activities, the owner/applicant shall demonstrate to the satisfaction of the Sacramento Metropolitan Air Quality Management District that Naturally Occurring Asbestos does not exist on site. To demonstrate the owner/applicant shall obtain the services of a California Certified Geologist to conduct a thorough site investigation of the development area per the protocol outlined in the California Geological Survey Special Report 124 to determine whether and where Naturally Occurring Asbestos is present in the soil and rock on the project site and/or areas that would be disturbed by the project. The site investigation shall include the collection of three soil and rock samples per acre to be analyzed via the California Air Resources Board 435 Method, or other acceptable method agreed upon by Sacramento Metropolitan Air Quality Management District and the City. If the investigation determines that Naturally Occurring Asbestos is not present on the project site, then the owner/applicant shall submit a Geologic Exemption to Sacramento Metropolitan Air Quality Management District as allowed under Title 17, Section 93105, Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining (Asbestos ATCM). The owner/applicant shall submit proof of compliance with the above to the Community Development Department for review and approval prior to the commencement of any site-disturbing activities.</p> <p>If the site investigation determines that Naturally Occurring Asbestos is present on the project site, or alternatively if the owner/applicant elects to assume presence of trace Naturally Occurring Asbestos, then, prior to commencement of any ground disturbance activity, the owner/applicant shall submit to the Sacramento Metropolitan Air Quality Management District for review and approval an Asbestos Dust Mitigation Plan, including, but not limited to, control measures required by the Asbestos ATCM, such as vehicle speed limitations, application of water prior to and during ground</p> | G | <p>Sacramento Metropolitan Air Quality Management District</p> <p>CD (E) (P)</p> |

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| 37. cont. | | <p>disturbance, keeping storage piles wet or covered, and track-out prevention and removal.</p> <p>The owner/applicant shall submit proof of compliance with the above to the Community Development Department for review and approval prior to the commencement of any site-disturbing activities. Upon approval of the Asbestos Dust Control Plan by the Sacramento Metropolitan Air Quality Management District, the owner/applicant shall ensure that construction contractors implement the terms of the plan throughout the construction period. If Naturally Occurring Asbestos is determined to be located on the surface of the project site, all surface soil containing Naturally Occurring Asbestos shall be replaced with clean soil or capped with another material (e.g., cinder or rubber), subject to review and approval by the City Engineer.</p> | | |
| 38. | 3A 2-1h | <p><i>Analyze and Disclose Projected PM10 Emission Concentrations at Nearby Sensitive Receptors Resulting from Construction of Off-site Elements.</i></p> <p>Prior to construction of any improvements that would involve site grading or earth disturbance activity that would exceed 15 acres in one day, the responsible agency or its selected consultant shall conduct detailed dispersion modeling of construction-generated PM10 emissions pursuant to Sacramento Metropolitan Air Quality Management District guidance that is in place at the time the analysis is performed.</p> | G | Sacramento Metropolitan Air Quality Management District Caltrans Sacramento County CD (E) (P) |

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| 38 cont. | <p>Sacramento Metropolitan Air Quality Management District emphasizes that PM10 emission concentrations at nearby sensitive receptors be disclosed in project-level CEQA analysis. Each project-level analysis shall incorporate detailed parameters of the construction equipment and activities, including the year during which construction would be performed, as well as the proximity of potentially affected receptors, including receptors proposed by the project that exist at the time the construction activity would occur. If the modeling analysis determines that construction activity would result in an exceedance or substantial contribution to the California Ambient Air Quality Standards and National Ambient Air Quality Standards at a nearby receptor, then the owner/applicant shall require their respective contractors to implement additional measures for controlling construction-generated PM10 exhaust emission and fugitive PM10 dust emissions in accordance with Sacramento Metropolitan Air Quality Management District guidance, requirements, and/or rules that apply at the time the project-level analysis is performed. It is likely that these measures would be the same or similar to those listed as Enhanced Fugitive PM Dust Control Practices for Soil Disturbance Areas and Unpaved Roads and Enhanced Exhaust Control Practices. Dispersion modeling is not required for the two El Dorado County roadway connections because the total amount of disturbed acreage is expected to be less than the EDCAQMD screening level of 12 acres.</p> <p>Mitigation for the any construction outside of the City of Folsom's jurisdictional boundaries shall be developed by the owner/applicant(s) of each applicable project phase in consultation with the affected oversight agency(ies) (i.e., Sacramento County or Caltrans).</p> | | |

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| 39. 3A 2-1a 3A 2-1d 3A 2-1f | <p>Basic Construction Emission Control Practices</p> <p>The owner/applicant shall implement Sacramento Metropolitan Air Quality Management District’s list of Basic Construction Emission Control Practices, Enhanced Fugitive Particulate Matter Dust Control Practices (listed below), and Enhanced Exhaust Control Practices or whatever mitigation measures are recommended by Sacramento Metropolitan Air Quality Management District at the time individual portions of the site undergo construction. In addition to Sacramento Metropolitan Air Quality Management District –recommended measures, construction operations shall comply with all applicable Sacramento Metropolitan Air Quality Management District rules and regulations.</p> <p>The following shall be noted on Grading Plans and building construction plans:</p> <p>Basic Construction Emission Control Practices</p> <ul style="list-style-type: none"> Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads. The owner/applicant shall not be permitted to use potable water from the City of Folsom water system for grading and/or construction while the City is in a stage 3 (water warning), stage 4 (water crisis), or stage 5 (water emergency) conservation stage as determined by the City and in conformance with Chapter 13.26 Water Conservation of the Folsom Municipal Code (FMC). The City may prohibit the use of potable water for grading and/or construction purposes on the project in its sole discretion regardless of the Water Conservation Stage. Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways shall be covered. | G, I, B | Sacramento Metropolitan Air Quality Management District CD (E) (P) |

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| 39cont. 3A 2-1a 3A 2-1d 3A 2-1f | <p>Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.</p> <ul style="list-style-type: none"> • Limit vehicle speeds on unpaved roads to 15 miles per hour (mph). • All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building foundations shall be laid as soon as possible after grading unless seeding or soil binders are used. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (as required by the state airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site. • Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment shall be checked by a certified mechanic and determine to be running in proper condition before it is operated. <p>Enhanced Fugitive Particulate Matter Dust Control Practices – Soil Disturbance Areas</p> <ul style="list-style-type: none"> • Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site. • Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 mph. • Install wind breaks (e.g., plant trees, solid fencing) on windward side(s) of construction areas. • Plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established. | G, I, B | Sacramento Metropolitan Air Quality Management District CD (E) (P) |

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| 39 cont. 3A 2-1a 3A 2-1d 3A 2-1f | <p>Enhanced Fugitive Particulate Matter Dust Control Practices – Unpaved Roads</p> <ul style="list-style-type: none"> • Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site. • Treat site accesses to a distance of 100 feet from the paved road with a 6 to 12-inch layer of wood chips, mulch, or gravel to reduce generation of road dust and road dust carryout onto public roads. • Post a publicly visible sign with the telephone number and person to contact at the construction site regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of Sacramento Metropolitan Air Quality Management District and the City contact person shall also be posted to ensure compliance. <p>Enhanced Exhaust Control Practices</p> <p>The owner/applicant shall provide a plan, for approval by the City of Folsom Community Development Department and Sacramento Metropolitan Air Quality Management District, demonstrating that the heavy-duty (50 horsepower [hp] or more) offroad vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NOX reduction and 45% particulate reduction compared to the most current California Air Resources Board (ARB) fleet average that exists at the time of construction. Acceptable options for reducing emissions may include use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.</p> | G, I, B | Sacramento Metropolitan Air Quality Management District CD (E) (P) |

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| 39 cont. 3A 2-1a 3A 2-1d 3A 2-1f | <p>The owner/applicant shall submit to the City of Folsom Community Development Department and Sacramento Metropolitan Air Quality Management District a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 hp, that would be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of heavy-duty off-road equipment, the project representative shall provide Sacramento Metropolitan Air Quality Management District with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.</p> <p>Sacramento Metropolitan Air Quality Management District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction (Sacramento Metropolitan Air Quality Management District 2007a). The project shall ensure that emissions from all off-road diesel powered equipment used within the project area do not exceed 40% opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and the City and Sacramento Metropolitan Air Quality Management District shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. Sacramento Metropolitan Air Quality Management District staff and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this mitigation measure shall supersede other Sacramento Metropolitan Air Quality Management District or state rules or regulations.</p> | G, I, B | Sacramento Metropolitan Air Quality Management District CD (E) (P) |

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| 39 cont 3A 2-1a 3A 2-1d 3A 2-1f• | If at the time of grading and/or construction, Sacramento Metropolitan Air Quality Management District has adopted a regulation or new guidance applicable to construction emissions, compliance with the regulation or new guidance may completely or partially replace this mitigation if it is equal to or more effective than the mitigation contained herein, and if Sacramento Metropolitan Air Quality Management District so permits. Such a determination shall be supported by a project-level analysis and be approved by Sacramento Metropolitan Air Quality Management District. | G, I, B | Sacramento Metropolitan Air Quality Management District CD (E) (P) |
| 40• | <p><i>Implement Fugitive Dust Control Measures and a Particulate Matter Monitoring Program during Construction.</i></p> <p>The owner/applicant shall implement fugitive dust control measures and a particulate matter monitoring program during construction. The owner/applicant shall ensure implementation of dust control measures and a particulate matter monitoring program during each phase of construction. Dust control measures may include, but are not limited to, the following:</p> <ul style="list-style-type: none"> ▶ minimize on-site construction vehicle speeds on unpaved surfaces; ▶ post speed limits; ▶ suspend grading operations when wind speeds exceed 20 m.p.h. ▶ pave, water, use gravel, cover, or spray a dust-control agent on all haul roads; ▶ Prohibit no open burning of vegetation during project construction; ▶ Chip or deliver vegetative material to waste-to-energy facilities; ▶ reestablish vegetation as soon as possible after construction and maintain vegetation consistent with the parameters established in Condition 39; ▶ clean earthmoving construction equipment with water once daily and clean all haul trucks leaving the site; and ▶ water and keep moist exposed earth surfaces, graded areas, storage piles, and haul roads as needed to prevent fugitive dust. | G,I | CD (E)(P) |

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| 41. | <p>Minimum Pad Elevations for Noise Attenuation The elevation of all building pads shall be no less than those shown on the preliminary grading and drainage plan dated March 9, 2017.</p> | G,I | CD (E), (P) |
| 42. | <p>3B.2-3a Locate Pump Stations Away from Sensitive Receptors. New pumping stations including back-up diesel generators shall be located more than 200 feet away from sensitive receptors. Electrically-powered pumps shall be used to power new pumps, to the extent practicable.</p> | I | CD (E) |
| 43. | <p>3B.11-1a Limit Construction Hours. Construction activities shall be limited to daylight hours between 7 a.m. and 7 p.m. Monday through Friday, and 9 a.m. and 5 p.m. on Saturday. No construction shall be allowed on Sundays or holidays.</p> | I | CD (E), PW |
| 44. | <p>3B.11-1b Minimize Noise from Construction Equipment and Staging. Construction equipment noise shall be minimized during project construction by muffling and shielding intakes and exhaust on construction equipment (per the manufacturer's specifications) and by shrouding or shielding impact tools, where used. The City's construction specifications shall also require that the contractor select staging areas as far as feasibly possible from sensitive receptors.</p> | G,I | CD (E), PW |
| 45. | <p>3B.11-1c Maximize the Use of Noise Barriers. Construction contractors shall locate fixed construction equipment (such as compressors and generators) and construction staging areas as far as possible from nearby residences. If feasible, noise barriers shall be used at the construction site and staging area. Temporary walls, stockpiles of excavated materials, or moveable sound barrier curtains would be appropriate in instances where construction noise would exceed 90 dBA and occur within less than 50 feet from a sensitive receptor. The final selection of noise barriers will be subject to the City's approval and shall provide a minimum 10 dBA reduction in construction noise levels.</p> | G,I | CD (E),(P) |

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| 46. | 3B.11-1d | <i>Prohibit Non-Essential Noise Sources During Construction.</i> No amplified sources (e.g., stereo “boom boxes”) shall be used in the vicinity of residences during project construction. | G,I,B | CD (E)(P) |
| 47. | 3B.11-1e | <i>Monitor Construction Noise and Provide a Mechanism for Filing Noise Complaints.</i> The owner/applicant shall provide an on-site complaint and enforcement manager that shall track and respond to noise complaints during grading and construction. The City shall also provide a mechanism for residents, businesses, and agencies to register complaints with the City if construction noise levels are overly intrusive or construction occurs outside the required hours. | G,I | CD (E)(P) |

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| 48. 3A 11-1 3B1-3a | <p><i>Implement Noise-Reducing Construction Practices, Prepare and Implement a Noise Control Plan, and Monitor and Record Construction Noise near Sensitive Receptors.</i></p> <p>The owner/applicant shall prepare and implement a construction noise management plan. This plan shall identify specific measures to ensure compliance with the noise control measures specified below. The noise control plan shall be submitted to the City of Folsom before any noise-generating construction activity begins and shall be noted on Grading Plans and building construction plans. Grading and construction shall not commence until the construction noise management plan is approved by the City of Folsom.</p> <ul style="list-style-type: none"> • Noise-generating construction operations shall be limited to the hours between 7 a.m. and 7 p.m. Monday through Friday, and between 8 a.m. and 5 p.m. on Saturdays. No construction is allowed on Sundays. These hours may be expanded to include Saturday and Sunday between 8 a.m. and 6 p.m. provided there are no sensitive receptors within 1500 feet, subject to the sole discretion of the city. • All construction equipment and equipment staging areas (including rock crushing operations) shall be located as far as possible from nearby noise-sensitive land uses. • All construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation. • All motorized construction equipment shall be shut down when not in use to prevent idling. • Individual operations and techniques shall be replaced with quieter procedures (e.g., using welding instead of riveting, mixing concrete off-site instead of on-site). | G, I, B | CD (P) CD (E) (B) |

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| 48. cont. | <ul style="list-style-type: none"> • Noise-reducing enclosures shall be used around stationary noise-generating equipment (e.g., compressors and generators) as planned phases are built out and future noise sensitive receptors are located within close proximity to future construction activities. • Written notification of construction activities shall be provided to all noise-sensitive receptors located within 850 feet of construction activities. Notification shall include anticipated dates and hours during which construction activities are anticipated to occur and contact information, including a daytime telephone number, for the project representative to be contacted in the event that noise levels are deemed excessive. Recommendations to assist noise-sensitive land uses in reducing interior noise levels (e.g., closing windows and doors) shall also be included in the notification. • To the extent feasible, acoustic barriers (e.g., lead curtains, sound barriers) shall be constructed to reduce construction-generated noise levels at affected noise-sensitive land uses. The barriers shall be designed to obstruct the line of sight between the noise-sensitive land use and on-site construction equipment. When installed properly, acoustic barriers can reduce construction noise levels by approximately 8–10 dB (EPA 1971). • When future noise sensitive uses are within close proximity to prolonged construction noise, noise-attenuating buffers such as structures, truck trailers, or soil piles shall be located between noise sources and future residences to shield sensitive receptors from construction noise. | | |
| 49. | <p>3B.16-3a</p> <p>Minimize Utility Conflicts by Implementing an Underground Services Alert. Underground utilities and service connections shall be identified prior to commencing any excavation work through the implementation of an Underground Services Alert (USA). The exact utility locations will be determined by hand-excavated test pits dug at locations determined and approved by the construction manager (also referred to as “pot-holing”). Temporary disruption of service may be required to allow for construction. No service on such lines would be disrupted until prior approval is received from the construction manager and the service provider.</p> | G | CD (E)(P) Underground Services Alert |

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| 50. | <p>Grading in Utility Easement The owner/applicant shall obtain a consent agreement, letter of waiver and/or an encroachment permit from Pacific Gas and Electric, SMUD, WAPA, etc. for any proposed grading and/or construction in any existing tower line and/or underground facility easement. The owner/applicant shall provide the approved consent agreement, letter of waiver and/or encroachment permit to the City prior to approval of any grading and/or improvement plans.</p> | | |
| 51. | <p>3A-7.3 Prepare and Implement the Appropriate Grading and Erosion Control Plan. Prior to issuance of a grading permit, the owner/applicant shall retain a California Registered Civil Engineer to prepare a grading and erosion and sedimentation control plan. The grading and erosion and sedimentation control plan shall be submitted to the Community Development Department prior to issuance of a grading permit. The plan shall be consistent with the City's Grading Ordinance, where applicable, the state's NPDES permit, the FPASP preliminary grading plans and shall include the site-specific grading associated with development for all project phases.</p> <p>The plans referenced above shall include the location, implementation schedule, and maintenance schedule of all erosion and sediment control measures, a description of measures designed to control dust and stabilize the construction-site road and entrance, and a description of the location and methods of storage and disposal of construction materials. Erosion and sediment control measures could include the use of temporary detention basins, berms, swales, wattles, and silt fencing, and covering or watering of stockpiled soils to reduce wind erosion. Stabilization on steep slopes could include construction of retaining walls and reseeded with vegetation after construction. Stabilization of construction entrances to minimize trackout (control dust) is commonly achieved by installing filter fabric and crushed rock to a depth of approximately 1 foot.</p> <p>The owner/applicant(s) shall ensure that the construction contractor is responsible for securing a source for transportation and deposition of excavated materials.</p> | G | CD (E) |

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| 52. | 3A7-3 | <p><i>Erosion Control Plan</i> Prior to the approval of the final facilities design, commencement of grading and/or construction activities, the owner/applicant shall submit an erosion control plan to the City for review and approval. The plan shall identify protective measures to be taken during excavation, temporary stockpiling, any reuse or disposal, and revegetation. Specific techniques may be based upon geotechnical reports, the <u>Erosion and Sediment Control Handbook</u> of the State of California Department of Conservation, and shall comply with all updated City standards.</p> | G | CD (E) |
| 53. | 3A7-3 | <p><i>Erosion and sedimentation control measures</i> Erosion and sedimentation control measures shall be incorporated into all grading and/or construction plans. These measures shall conform to the City of Folsom requirements and the County of Sacramento <u><i>Erosion and Sedimentation Control Standards and Specifications</i></u>-current edition and as directed by the Community Development Department.</p> | G | CD (E) |

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| 54. 3A 9-1 | <p><i>Acquire Appropriate Regulatory Permits and Prepare and Implement Stormwater Pollution Prevention Plan (SWPPP) and Best Management Practices (BMPs).</i></p> <p>The owner/applicant of the project disturbing one or more acres (including phased construction of smaller areas which are part of a larger project) shall obtain coverage under the State Water Resources Control Board's National Pollution Discharge Elimination System stormwater permit for general construction activity (Order 2009-0009-DWQ), including preparation and submittal of a project-specific Storm Water Pollution Prevention Plan at the time the Notice of Intent is filed. The Storm Water Pollution Prevention Plan and other appropriate plans shall identify and specify:</p> <ul style="list-style-type: none"> • the use of an effective combination of robust erosion and sediment control BMPs and construction techniques accepted by the local jurisdictions for use in the project area at the time of construction, that shall reduce the potential for runoff and the release, mobilization, and exposure of pollutants, including legacy sources of mercury from project-related construction sites. These may include but would not be limited to temporary erosion control and soil stabilization measures, sedimentation ponds, inlet protection, perforated riser pipes, check dams, and silt fences • the implementation of approved local plans, non-stormwater management controls, permanent post-construction BMPs, and inspection and maintenance responsibilities; • the pollutants that are likely to be used during construction that could be present in stormwater drainage and nonstormwater discharges, including fuels, lubricants, and other types of materials used for equipment operation; • spill prevention and contingency measures, including measures to prevent or clean up spills of hazardous waste and of hazardous materials used for equipment operation, and emergency procedures for responding to spills; | G | CD (E) |

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| 54. cont. | <ul style="list-style-type: none"> • personnel training requirements and procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the Storm Water Pollution Prevention Plan; and • the appropriate personnel responsible for supervisory duties related to implementation of the Storm Water Pollution Prevention Plan. <p>Where applicable, Best Management Practices identified in the Storm Water Pollution Prevention Plan shall be in place throughout all site work and construction/demolition activities and shall be used in all subsequent site development activities. Best Management Practices may include, but are not limited to, such measures as those listed below:</p> <ul style="list-style-type: none"> • Implementing temporary erosion and sediment control measures in disturbed areas to minimize discharge of sediment into nearby drainage conveyances, in compliance with state and local standards in effect at the time of construction. These measures may include silt fences, staked straw bales or wattles, sediment/silt basins and traps, geofabric, sandbag dikes, and temporary vegetation. • Establishing permanent vegetative cover to reduce erosion in areas disturbed by construction by slowing runoff velocities, trapping sediment, and enhancing filtration and transpiration. • Using drainage swales, ditches, and earth dikes to control erosion and runoff by conveying surface runoff down sloping land, intercepting and diverting runoff to a watercourse or channel, preventing sheet flow over sloped surfaces, preventing runoff accumulation at the base of a grade, and avoiding flood damage along roadways and facility infrastructure. <p>A copy of the approved Storm Water Pollution Prevention Plan shall be maintained and available at all times on the construction site.</p> | G | CD (E) |

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| 55. 3A-9.2 | <p><i>Prepare and Submit Final Drainage Plans and Implement Requirements Contained in Those Plans.</i></p> <p>The owner/applicant shall submit a final drainage plan to the City demonstrating that off-site upstream runoff will be appropriately conveyed through the Folsom Plan Area, and that project-related on-site runoff will be appropriately conveyed and contained in detention basins or managed through other improvements (e.g., source controls, biotechnical stream stabilization) to reduce flooding and hydromodification impacts and provide water quality treatment.</p> <p>The plans shall include, but not be limited to, the following items:</p> <ul style="list-style-type: none"> • a drainage swale, located at the base of the noise berm, shall be included to prevent sheet flow from the berm flowing onto the Class 1 bike trail. Inlets and under drains shall be included as necessary. • an accurate calculation of pre-project and post-project runoff scenarios, obtained using appropriate engineering methods, that accurately evaluates potential changes to runoff, including increased surface runoff; • runoff calculations for the 10-year and 100-year (0.01 AEP) storm events (and other, smaller storm events as required) shall be performed and the trunk drainage pipeline sizes confirmed based on alignments and detention facility locations finalized in the design phase; • a description of the proposed maintenance program for the on-site drainage system; • project-specific standards for installing drainage systems; • City flood control design requirements and measures designed to comply with them; Implementation of stormwater management BMPs that avoid increases in the erosive force of flows beyond a specific range of conditions needed to limit hydromodification and maintain current stream geomorphology. These Best Management Practices will be designed and constructed in accordance with the forthcoming Stormwater Quality Partnership Hydromodification Management Plan (to be adopted by the Regional Water Quality Control Board) and may include, but are not limited to, the following: | G, I | CD (E) |

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| 55 cont. 3A-9.2 | <p>i. Use of Low Impact Development (LID) techniques to limit increases in stormwater runoff at the point of origination (these may include, but are not limited to: surface swales; replacement of conventional impervious surfaces with pervious surfaces [e.g., porous pavement]; impervious surfaces disconnection; and trees planted to intercept stormwater);</p> <p>ii. Enlarged detention basins to minimize flow changes and changes to flow duration characteristics;</p> <p>iii. Bioengineered stream stabilization to minimize bank erosion, utilizing vegetative and rock stabilization, and inset floodplain restoration features that provide for enhancement of riparian habitat and maintenance of natural hydrologic and channel to floodplain interactions;</p> <p>iv. Minimize slope differences between any stormwater or detention facility</p> <p>v. outfall channel with the existing receiving channel gradient to reduce flow velocity; and</p> <p>v. Minimize to the extent possible detention basin, bridge embankment, and other encroachments into the channel and floodplain corridor, and utilize open bottom box culverts to allow sediment passage on smaller drainage courses.</p> <p>The final drainage plan shall demonstrate to the satisfaction of the City of Folsom Community Development and Public Works Departments that 100-year (0.01 AEP) flood flows would be appropriately channeled and contained, such that the risk to people or damage to structures within or down gradient of the Folsom Plan Area would not occur, and that hydromodification would not be increased from pre-development levels such that existing stream geomorphology would be changed (the range of conditions should be calculated for each receiving water if feasible, or a conservative estimate should be used, e.g., an Ep of 1 ±10% or other as approved by the Sacramento Stormwater Quality Partnership and/or City of Folsom).</p> | G | CD (E), PW |

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 AND INCLUSIONARY HOUSING AGREEMENT**

| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|--|---------------|------------------------|
| 56. | <p><i>Develop and Implement a BMP and Water Quality Maintenance Plan.</i> A detailed BMP and water quality maintenance plan shall be prepared by a qualified engineer retained by the owner/applicant(s) for the project. The plan shall finalize the water quality improvements and further detail the structural and nonstructural BMPs proposed for the project. The plan shall include the elements described below.</p> <ul style="list-style-type: none"> • A quantitative hydrologic and water quality analysis of proposed conditions incorporating the proposed drainage design features. • Predevelopment and post development calculations demonstrating that the proposed water quality BMPs meet or exceed requirements established by the City of Folsom and including details regarding the size, geometry, and functional timing of storage and release pursuant to the latest edition of the “Stormwater Quality Design Manual for Sacramento and South Placer Regions” (the City’s MS4NPDES permit, page 46) and El Dorado County’s NPDES SWMP (County of El Dorado 2004). • Source control programs to control water quality pollutants within the project, which may include but are not limited to recycling, street sweeping, storm drain cleaning, household hazardous waste collection, waste minimization, prevention of spills and illegal dumping, and effective management of public trash collection areas. • A pond management component for the proposed basins that shall include management and maintenance requirements for the design features and BMPs, and responsible parties for maintenance and funding. • LID control measures shall be integrated into the BMP and water quality maintenance plan. These may include, but are not limited to: <ul style="list-style-type: none"> • surface swales; • replacement of conventional impervious surfaces with pervious surfaces (e.g., porous pavement); • impervious surfaces disconnection; and • trees planted to intercept stormwater. | G | CD (E) |

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| 56.cont. | | <ul style="list-style-type: none"> New stormwater facilities shall be placed along the natural drainage courses within the project to the extent practicable so as to mimic the natural drainage patterns. The reduction in runoff as a result of the LID configurations shall be quantified based on the runoff reduction credit system methodology described in “Stormwater Quality Design Manual for the Sacramento and South Placer Regions, Chapter 5 and Appendix D4” (SSQP 2007b) and proposed detention basins and other water quality BMPs shall be sized to handle these runoff volumes. <p>For those areas that would be disturbed as part of the U.S. 50 interchange improvements, it is anticipated that Caltrans would coordinate with the development and implementation of the overall project SWPPP, or develop and implement its own SWPPP specific to the interchange improvements, to ensure that water quality degradation would be avoided or minimized to the maximum extent practicable. Mitigation for the off-site improvements outside of the City of Folsom’s jurisdictional boundaries shall be coordinated by the owner/applicant of each applicable project phase with El Dorado County and Caltrans.</p> | | |

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| 57. 3A 8.7 | <p><i>Prepare and Implement a Vector Control Plan in Consultation with the Sacramento-Yolo Mosquito and Vector Control District.</i></p> <p>To ensure that the operation and design of the stormwater system, including multiple planned detention basins, is consistent with the recommendations of the Sacramento-Yolo Mosquito and Vector Control District regarding mosquito control, the owner/applicant shall prepare and implement a Vector Control Plan. This plan shall be prepared in coordination with the Sacramento-Yolo Mosquito and Vector Control District and shall be submitted to the City for approval prior to issuance of the grading permit for the proposed detention basins under the City's jurisdiction.</p> <p>The plan shall incorporate specific measures deemed sufficient by the City to minimize public health risks from mosquitoes, and as contained within the Sacramento-Yolo Mosquito and Vector Control District BMP Manual (Sacramento-Yolo Mosquito and Vector Control District 2008). The plan shall include, but is not limited to, the following components:</p> <ul style="list-style-type: none"> • Description of the project. • Description of detention basins and all water features and facilities that would control on-site water levels. • Goals of the plan. • Description of the water management elements and features that would be implemented, including: <ol style="list-style-type: none"> i. BMPs that would be implemented on-site; ii. public education and awareness; iii. sanitary methods used (e.g., disposal of garbage); iv. mosquito control methods used (e.g., fluctuating water levels, biological agents, pesticides, larvacides, circulating water); and v. stormwater management. | G | CD (E) Sacto. County |

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| 57 cont. | <p>• Long-term maintenance of the detention basins and all related facilities (e.g., specific ongoing enforceable conditions or maintenance by a homeowner's association).</p> <p>To reduce the potential for mosquitoes to reproduce in the detention basins, the owner/applicant shall coordinate with the Sacramento-Yolo Mosquito and Vector Control District to identify and implement BMPs based on their potential effectiveness for the site conditions. Potential BMPs could include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • build shoreline perimeters as steep and uniform as practicable to discourage dense plant growth; • perform routine maintenance to reduce emergent plant densities to facilitate the ability of mosquito predators (i.e., fish) to move throughout vegetated area; • design distribution piping and containment basins with adequate slopes to drain fully and prevent standing water. The design slope should take into consideration buildup of sediment between maintenance periods. Compaction during grading may also be needed to avoid slumping and settling; • coordinate cleaning of catch basins, drop inlets, or storm drains with mosquito treatment operations; • enforce the prompt removal of silt screens installed during construction when no longer needed to protect water quality; • if the sump, vault, or basin is sealed against mosquitoes, with the exception of the inlet and outlet, submerge the inlet and outlet completely to reduce the available surface area of water for mosquito egg-laying (female mosquitoes can fly through pipes); and • design structures with the appropriate pumping, piping, valves, or other necessary equipment to allow for easy dewatering of the unit if necessary (Sacramento Yolo Mosquito and Vector Control District 2008). | G | CD (E) |

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| 57 cont. | | <ul style="list-style-type: none"> i. Surface swales; ii. Replacement of conventional impervious surfaces with pervious surfaces (e.g., porous pavement); iii. Impervious surfaces disconnection; and iv. Trees planted to intercept stormwater. | | CD (E) |
| 58. | 3B.9-1b | <p><i>Properly Dispose of Hydrostatic Test Water and Construction Dewatering in Accordance with the Central Valley Regional Water Quality Control Board</i></p> <p>All hydrostatic test water and construction dewatering shall be discharged to an approved land disposal area or drainage facility in accordance with Central Valley RWCQB requirements. The City or its construction contractor shall provide the Central Valley RWQCB with the location, type of discharge, and methods of treatment and monitoring for all hydrostatic test water discharges. Emphasis shall be placed on those discharges that would occur directly to surface water bodies.</p> | G | CD (E) CVRWQCB |
| 59. | | <p><i>State and Federal Permits</i></p> <p>The owner/applicant shall obtain all required State and Federal permits and provide evidence that said permits have been obtained, or that the permit is not required, subject to staff review prior to approval of any grading or improvement plan.</p> | G, I | CD (P) CD (E) |

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| 60. | 3A 3-1a 3A 3-1b | <p><i>Clean Water Act Sections 401 and 404 Permits</i></p> <p>Prior to the approval of grading and improvement plans and before any groundbreaking activity associated with each distinct project phase, the owner/applicant shall secure all necessary permits obtained under Sections 401 and 404 of the Clean Water Act or the State's Porter-Cologne Act and implement all permit conditions for the proposed project. All permits, regulatory approvals, and permit conditions for effects on wetland habitats shall be secured and conditions implemented before implementation of any grading activities within 250 feet of Waters of the U.S. or wetland habitats, including Waters of the State, that potentially support federally-listed species, or within 100 feet of any other Waters of the U.S. or wetland habitats, including Waters of the State. The owner/applicant shall adhere to all conditions outlined in the permits. The owner/applicant shall commit to replace, restore, or enhance on a "no net loss" basis (in accordance with United States Army Corps Of Engineers and the Central Valley Regional Water Quality Control Board) the acreage of all wetlands and other Waters of the U.S. that would be removed, lost, and/or degraded with implementation of the project. Wetland habitat shall be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to United States Army Corps Of Engineers, the Central Valley Regional Water Quality Control Board, and the City, as appropriate, depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes. The boundaries of the 404 permit, including required buffers shall be shown on the grading plans.</p> <p>All mitigation requirements to satisfy the requirements of the City and the Central Valley Regional Water Quality Control Board, for impacts on the non-jurisdictional wetlands beyond the jurisdiction of United States Army Corps Of Engineers, shall be determined and implemented before grading plans are approved.</p> <p>All wetland mitigation compliance reports submitted to the Army Corps of Engineers shall also be copied concurrently to the City.</p> | G, I | CD(P) CD (E) United States Army Corps. Of Engineers Central Valley Regional Water Quality Control Board |

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| 61. | | <p><i>Water Quality Certification</i> A water quality certification pursuant to Section 401 of the Clean Water Act is required before issuance of the record of decision and before issuance of the Section 404 permit. Before construction in any areas containing wetland features, the owner/applicant shall obtain water quality certification for the project. Any measures required as part of the issuance of water quality certification shall be implemented pursuant to the permit conditions.</p> | G | CD (E) |
| 62. | 3A3-4a. | <p><i>Master Streambed Alteration Agreement</i> The owner/applicant shall amend, if necessary, and implement the original Section 1602 Master Streambed Alteration Agreement received from California Department of Fish and Wildlife for all construction activities that would occur in the bed and bank of California Department of Fish and Wildlife jurisdictional features within the project site. As outlined in the Master Streambed Alteration Agreement, the owner/applicant shall submit a Sub-notification Form (SNF) to California Department of Fish and Wildlife 60 days prior to grading and/or the commencement of construction to notify California Department of Fish and Wildlife of the project. Any conditions of issuance of the Master Streambed Alteration Agreement shall be implemented as part of those project construction activities that would adversely affect the bed and bank within on-site drainage channels subject to California Department of Fish and Wildlife jurisdiction. The agreement shall be executed by the owner/applicant and California Department of Fish and Wildlife before the approval of any grading or improvement plans or any construction activities in any project phase that could potentially affect the bed and bank of on-site drainage channels under California Department of Fish and Wildlife jurisdiction.</p> | G | CD(P) CD (E) California Department of Fish and Wildlife |

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| 63. 3B 3-1c | <p><i>Restore All Waters Impacted by Trenching and Temporary Construction Staging</i> For all crossings of waters of the U.S. or State in which the use of trenchless technologies are not feasible, the City shall ensure that all waters impacted by trenching activities are restored to pre-project conditions. In addition, within 30 days following project construction, the owner/applicant shall ensure that all temporary construction staging areas within waters of the U.S. or State are restored to preproject conditions. At minimum, the City shall ensure that the following measures are implemented during construction:</p> <ul style="list-style-type: none"> ▶ Conduct trenching and construction activities across drainages during low-flow (e.g., <1 to 2 cfs) or dry periods as feasible; ▶ If working in active channels, install cofferdam upstream and downstream of stream crossing to separate construction area from flowing waterway; ▶ Place sediment curtains upstream and downstream of the construction zone to prevent sediment disturbed during trenching activities from being transported and deposited outside of the construction zone; ▶ Locate spoil sites such that they do not drain directly into the drainages or seasonal wetlands; ▶ Store equipment and materials away from the drainages and wetland areas. No debris will be deposited within 250 feet of the drainages and wetland areas; ▶ Prepare and implement a revegetation plan to restore vegetation in all temporarily disturbed wetlands and other waters using native species seed mixes and container plant material that are appropriate for existing hydrological conditions. | G | CD (E) |

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| 63 cont. | | <p>Prior to the approval of grading and improvement plans and before any groundbreaking activity associated with grading and construction requiring fill of wetlands or other waters of the U.S. or waters of the state, the owner/applicant shall submit a wetland mitigation and monitoring plan (MMP) for the restoration of these waters within the selected water alignment to the US Army Corps of Engineers (USACE) and Central Valley Regional Water Quality Control Board (RWQCB) for review and approval of those portions of the plan over which they have jurisdiction. The Mitigation and Monitoring Plan (MMP) would have to be approved prior to issuance of a Section 404 permit. Once the final MMP is approved and implemented, mitigation monitoring shall continue for a minimum of 5 years from completion of restoration activities, or human intervention (including recontouring and grading), or until the performance standards identified in the approved MMP have been met, whichever is longer.</p> <p>At minimum, the MMP shall provide the following information:</p> <ul style="list-style-type: none"> ▶ A description and drawings showing the existing contours (elevation) and existing vegetation of the waters of the U.S. and State that would be impacted through trenching activities. This information shall include site photographs taken at each impacted water. ▶ Methods used to ensure that trenching within waters of the U.S. and State do not adversely alter existing hydrology, including the draining of the waters (e.g., use of cut-off walls). ▶ The methods used to restore the site to the original contour and condition, as well as a plan for the revegetation of the site following installation of the improvements. ▶ Proposed schedule for restoration activities | | |

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| 64. 3A 3-2a | <p><i>Swainson's Hawk Nesting Habitat</i> A qualified biologist shall be retained by the owner/applicant to conduct preconstruction surveys and to identify active Swainson's Hawk nests on and within 0.5-mile of the project area. The surveys shall be conducted before the approval of grading and/or improvement plans (as applicable) and no less than 14 days and no more than 30 days before the beginning of grading and construction. To the extent feasible, guidelines provided in <i>Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley (Swainson's Hawk Technical Advisory Committee 2000)</i> shall be followed for surveys for Swainson's hawk. If no nests are found, no further mitigation is required.</p> <p>If active nests are found, impacts on nesting Swainson's Hawks shall be avoided by establishing appropriate buffers around the nests. No project activity shall commence within the buffer area until the young have fledged, the nest is no longer active, or until a qualified biologist has determined in coordination with California Department of Fish and Wildlife that reducing the buffer would not result in nest abandonment. California Department of Fish and Wildlife guidelines recommend implementation of 0.25- or 0.5-mile-wide buffers, but the size of the buffer may be adjusted if a qualified biologist and the City, in consultation with California Department of Fish and Wildlife, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities will be required if the activity has potential to adversely affect the nest.</p> | G | CD(P) CD (E) California Department of Fish and Wildlife |

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| 65. 3A 3-2b | <p>Swainson's Hawk Habitat</p> <p>Prior to the approval of grading and improvement plans, or before any ground-disturbing activities, whichever occurs first, the owner/applicant shall secure suitable Swainson's Hawk foraging habitat to ensure appropriate mitigation of habitat value for Swainson's Hawk foraging habitat that is permanently lost as a result of the project, as determined by the City after consultation with California Department of Fish and Wildlife and a qualified biologist.</p> <p>The habitat value or shall be based on Swainson's Hawk nesting distribution and an assessment of habitat quality, availability, and use within the project area. The mitigation ratio shall be consistent with the 1994 DFG Swainson's Hawk Guidelines included in the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (Buteo swainsoni) in the Central Valley of California. If such mitigation shall be accomplished through purchase of credits at an approved mitigation bank, the transfer of fee title, or perpetual conservation easement, the ratio for habitat value shall be 0.5:1. If non-bank mitigation is proposed, the mitigation land shall be located within the known foraging area and within Sacramento County and the habitat value shall be 1:1. The City, after consultation with California Department of Fish and Wildlife, will determine the appropriateness of the mitigation land.</p> <p>The owner/applicant shall transfer said Swainson's Hawk mitigation land, through either conservation easement or fee title, to a third-party, nonprofit conservation organization (Conservation Operator), with the City and California Department of Fish and Wildlife named as third-party beneficiaries. The Conservation Operator shall be a qualified conservation easement land manager that manages land as its primary function. Additionally, the Conservation Operator shall be a tax-exempt nonprofit conservation organization that meets the criteria of Civil Code Section 815.3(a) and shall be selected or approved by the City, after consultation with California Department of Fish and Wildlife. After consultation with California Department of Fish and Wildlife and the Conservation Operator, the City shall approve the content and form</p> | G | CD (P) California Department of Fish and Wildlife |

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| 65 cont. | <p>of the conservation easement. The City, California Department of Fish and Wildlife, and the Conservation Operator shall each have the power to enforce the terms of the conservation easement. The Conservation Operator shall monitor the easement in perpetuity to assure compliance with the terms of the easement.</p> <p>After consultation with the City, The owner/applicant, California Department of Fish and Wildlife, and the Conservation Operator, shall establish an endowment or some other financial mechanism that is sufficient to fund in perpetuity the operation, maintenance, management, and enforcement of the conservation easement. If an endowment is used, either the endowment funds shall be submitted to the City for impacts on lands within the City's jurisdiction to an appropriate third-party nonprofit conservation agency, or they shall be submitted directly to the third-party nonprofit conservation agency in exchange for an agreement to manage and maintain the lands in perpetuity. The Conservation Operator shall not sell, lease, or transfer any interest of any conservation easement or mitigation land it acquires without prior written approval of the City and California Department of Fish and Wildlife.</p> <p>If the Conservation Operator ceases to exist, the duty to hold, administer, manage, maintain, and enforce the interest shall be transferred to another entity acceptable to the City and California Department of Fish and Wildlife. The City Planning Department shall ensure that mitigation habitat established for impacts on habitat within the City's planning area is properly established and is functioning as habitat by conducting regular monitoring of the mitigation site(s) for the first ten years after establishment of the easement.</p> | G | CD(P) CD (E) California Department of Fish and Wildlife |

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| 66. | 3A 3-2a | <p><i>Burrowing Owl</i> A qualified biologist shall be retained by the owner/applicant to conduct a preconstruction survey to identify active Burrowing Owl burrows within the project area. The surveys shall be conducted no less than 14 days and no more than 30 days before the beginning of grading and construction activities for each phase of development. The preconstruction survey shall follow the protocols outlined in the Staff Report on Burrowing Owl Mitigation (CDFG 2012).</p> <p>If active burrows are found, a mitigation plan shall be submitted to the City for review and approval before any ground-disturbing activities. The City shall consult with California Department of Fish and Wildlife. The mitigation plan may consist of installation of one-way doors on all burrows to allow owls to exit, but not reenter, and construction of artificial burrows within the project vicinity, as needed; however, burrowing owl exclusions may only be used if a qualified biologist verifies that the burrow does not contain eggs or dependent young. If active burrows contain eggs and/or young, no construction shall occur within 50 feet of the burrow until young have fledged. Once it is confirmed that there are no owls inside burrows, these burrows may be collapsed.</p> | G | CD(P) CD (E) California Department of Fish and Wildlife |

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| 67. | <p><i>Nesting Raptors</i></p> <p>To mitigate impacts on nesting raptors, a qualified biologist shall be retained by the owner/applicant to conduct a preconstruction survey to identify active nests on and within 0.5 miles of the project area. The surveys shall be conducted no less than 14 days and no more than 30 days before the beginning of construction activities for each phase of development</p> <p>If active nests are found, impacts on nesting raptors shall be avoided by establishing appropriate buffers around the nests. No project activity shall commence within the buffer area until the young have fledged, the nest is no longer active, or until a qualified biologist has determined in coordination with California Department of Fish and Wildlife that reducing the buffer would not result in nest abandonment. The buffer may be adjusted if a qualified biologist and the City, in consultation with California Department of Fish and Wildlife, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities will be required if the activity has potential to adversely affect the nest.</p> | G. | CD(P) CD (E) California Department of Fish and Wildlife |

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| 68. 3A.3-2c | <p><i>Avoid and Minimize Impacts to Tricolored Blackbird Nesting Colonies.</i></p> <p>To avoid and minimize impacts to tricolored blackbird, the owner/applicant of all project phases shall conduct a preconstruction survey for any project activity that would occur during the tricolored blackbird's nesting season (March 1–August 31). The preconstruction survey shall be conducted by a qualified biologist before any activity occurring within 500 feet of suitable nesting habitat, including freshwater marsh and areas of riparian scrub vegetation. The survey shall be conducted within 14 days before project activity begins.</p> <p>If no tricolored blackbird colony is present, no further mitigation is required. If a colony is found, the qualified biologist shall establish a buffer around the nesting colony. No project activity shall commence within the buffer area until a qualified biologist confirms that the colony is no longer active. The size of the buffer shall be determined in consultation with DFG. Buffer size is anticipated to range from 100 to 500 feet, depending on the nature of the project activity, the extent of existing disturbance in the area, and other relevant circumstances.</p> <p>Mitigation for the off-site elements outside of the City of Folsom's jurisdictional boundaries (i.e., U.S. 50 interchange improvements) must be developed by the owner/applicant of each applicable project phase in consultation with the affected oversight agency(ies) (i.e., Caltrans) and must be sufficient to achieve the performance criteria described above.</p> | G | CD(P) CD (E) California Department of Fish and Wildlife |

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| 69. | <p>Other Nesting Special-Status and Migratory Birds The owner/applicant shall retain a qualified biologist to conduct a preconstruction survey for any project activity that would occur in suitable nesting habitat during the avian nesting season (approximately March 1–August 31). The preconstruction survey shall be conducted within 14 days before any activity occurring within 100 feet of suitable nesting habitat. Suitable habitat includes annual grassland, valley needlegrass grassland, freshwater seep, vernal pool, seasonal wetland, and intermittent drainage habitat within the project site.</p> <p>If no active special-status or other migratory bird nests are present, no further mitigation is required. If an active nest is found, the qualified biologist shall establish a buffer around the nest. No project activity shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active. The size of the buffer shall be determined in consultation with California Department of Fish and Wildlife. Buffer size is anticipated to range from 50 to 100 feet, depending on the nature of the project activity, the extent of existing disturbance in the area, and other relevant circumstances.</p> | G | CD(P) CD (E) California Department of Fish and Wildlife |
| 70. | <p>Animal Barrier To discourage the migration of undesirable small animals (including snakes) into adjacent developed properties during the development of the project, the owner/applicant shall install a barrier along all areas adjacent to developed residential properties and parks to the satisfaction of the Community Development Department and consistent with a qualified biologist's recommendations. In general, the barrier may consist of wire-mesh fabric with openings not exceeding ½-inch width. The height of the barrier shall be at least 18 inches (above the ground surface), and may be buried into the ground at least twelve inches. The barrier shall be supported with metal stakes at no more than 10-foot spacing. The barrier shall be installed by the owner/applicant, as approved by the Community Development Department and a qualified biologist, prior to any construction disturbance on the site, including clearing and grading operations.</p> | G | CD (E) (P) |

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| 71. | 3 A 5-1a 3A 5-2 3A 5-3 | <p><i>Conduct Construction Worker Awareness Training, Conduct On-Site Monitoring if Required, Stop Work if Cultural Resources are Discovered, Assess the Significance of the Find, and Perform Treatment or Avoidance as Required.</i></p> <p>The owner/applicant shall retain a qualified archaeologist to prepare and disseminate a contractor awareness training program for all construction supervisors. The sensitivity training program will provide information about notification procedures when potential archaeological material is discovered, procedures for coordination between construction personnel and information about other treatment or issues that may arise if cultural resources (including human remains) are discovered during project construction. The training shall be carried out each time a new contractor will begin work in the project area, and a minimum of once at the start of each construction season by that contractor, the qualified archeologist shall submit the completed training attendance roster and a copy of the training materials to the City and the USACE within 48 hours of delivery of the training program.</p> | G | CD CD (E) USACE |

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| 72. 3A 5-3 | <p><i>Suspend Ground-Disturbing Activities if Human Remains are Encountered and Comply with California Health and Safety Code Procedures.</i></p> <p>In the event that human remains are discovered, construction activities within 150 feet of the discovery shall be halted or diverted and the requirements for managing unanticipated discoveries in Mitigation Measure 4.4-2(a) shall be implemented. In addition, the provisions of Section 7050.5 of the California Health and Safety Code, Section 5097.98 of the California Public Resources Code, and Assembly Bill 2641 shall be implemented. When human remains are discovered, state law requires that the discovery be reported to the County Coroner (Section 7050.5 of the Health and Safety Code) and that reasonable protection measures be taken during construction to protect the discovery from disturbance (AB 2641).</p> <p>If the Coroner determines the remains are Native American, the Coroner shall notify the Native American Heritage Commission (NAHC), which then designates a Native American Most Likely Descendant for the project (Section 5097.98 of the Public Resources Code). The designated Native American Most Likely Descendant then has 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains (AB 2641).</p> <p>If the owner/applicant does not agree with the recommendations of the Native American Most Likely Descendant, the NAHC can mediate (Section 5097.94 of the Public Resources Code). If no agreement is reached, the owner/applicant shall rebury the remains where they will not be further disturbed (Section 5097.98 of the Public Resources Code). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a deed restriction with the county in which the property is located (AB 2641).</p> | OG | Sacramento County Coroner Native American Heritage Commission CD (P) CD (E) |

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| 73. 3A5-2 | <p><i>Conduct Construction Worker Awareness Training, Stop Work if Paleontological Resources are Discovered, Assess the Significance of the Find, and Prepare and Implement a Recovery Plan as Required.</i></p> <p>Before the start of any earthmoving activities, the owner/applicant shall retain a qualified professional to train all construction personnel involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils, the appearance and types of fossils likely to be seen during construction, and proper notification procedures should fossils be encountered. The training shall be included in the archaeological contractor awareness training program.</p> <p>If paleontological resources are discovered during earthmoving activities, the construction crew shall immediately cease work in the vicinity of the find and notify the City of Folsom's Community Development Department. The owner/applicant shall retain a qualified paleontologist to evaluate the resource and prepare a recovery plan in accordance with Society of Vertebrate Paleontology guidelines (1996). The recovery plan may include, but is not limited to, a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the lead agency to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered.</p> | G | CD (E) (P), |
| 74. 3A 5-1a | <p><i>Geoarcheological Monitoring</i></p> <p>In the event that any grading will occur within areas determined to require geoarcheological monitoring, the owner/applicant shall retain a qualified professional geoarcheologist who has a graduate degree in the specialized discipline, possesses a demonstrated ability to carry research to completion, and has at least 24 months of professional experience and/or specialized training in geoarcheology. The geoarcheologist shall monitor the ground disturbing activities in the affected areas down to 1.5 meters below the surface. The monitoring geoarcheologist shall submit proof of monitoring in the form of daily field monitoring logs to the City and the US Army Corps of Engineers within 48 hours of completion of monitoring activities.</p> | G | CD (E) (P) |

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| 75. 3B.8-1a | <p><i>Transport, Store, and Handle Construction-Related Hazardous Materials in Compliance with Relevant Regulations and Guidelines.</i></p> <p>The City shall ensure, through the enforcement of contractual obligations, that all contractors transport, store, and handle construction-related hazardous materials in a manner consistent with relevant regulations and guidelines, including those recommended and enforced by Caltrans, Central Valley RWQCB, local fire departments, and the County environmental health department.</p> <p>Recommendations shall include as appropriate transporting and storing materials in appropriate and approved containers, maintaining required clearances, and handling materials using applicable Federal, state and/or local regulatory agency protocols. In addition, all precautions required by the Central Valley RWQCB-issued NPDES construction activity stormwater permits shall be taken to ensure that no hazardous materials enter any nearby waterways.</p> <p>In the event of a spill, the City shall ensure, through the enforcement of contractual obligations, that all contractors immediately control the source of any leak and immediately contain any spill utilizing appropriate spill containment and countermeasures. If required by the local fire departments, the local environmental health department, or any other regulatory agency, contaminated media shall be collected and disposed of at an off-site facility approved to accept such media.</p> <p>The storage, handling, and use of the construction-related hazardous materials shall be in accordance with applicable Federal, state, and local laws. Construction-related hazardous materials and hazardous wastes (e.g., fuels and waste oils) shall be stored away from stream channels and steep banks to prevent these materials from entering surface waters in the event of an accidental release. These materials shall be kept at sufficient distance (at least 500 feet) from nearby residences or other sensitive land uses. This includes materials stored for expected use, materials in equipment and vehicles, and waste materials.</p> | G,I,B | CD (E), FD |

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| 76. | | <p>Landslide /Slope Failure The owner/applicant shall retain an appropriately licensed engineer during the grading activities to identify existing landslides and potential slope failure hazards. The said engineer shall be notified a minimum of two days prior to any site clearing or grading to facilitate meetings with the grading contractor in the field.</p> | G | CD (E) PW |
| 77. | <p>3A.16-1</p> | <p>Submit Proof of Adequate On- and Off-Site Wastewater Conveyance Facilities and Implement On- and Off-Site Infrastructure Service Systems or Ensure That Adequate Financing Is Secured.</p> <p>Before the approval of the final map and issuance of building permits for all project phases, the owner/applicant shall submit proof to the City of Folsom that an adequate wastewater conveyance system either has been constructed or is ensured through payment of the City's facilities augmentation fee as described under the Folsom Municipal Code Title 3, Chapter 3.40, "Facilities Augmentation Fee – Folsom South Area Facilities Plan," or other sureties to the City's satisfaction. Both on-site wastewater conveyance infrastructure and off-site force main sufficient to provide adequate service to the project shall be in place for the amount of development identified in the tentative map before approval of the final map and issuance of building permits, or their financing shall be ensured to the satisfaction of the City.</p> | M,B | CD (E) PW |
| 78. | <p>3B.16-3b</p> | <p>Coordinate with Utility Providers and Implement Appropriate Installation Methods to Minimize Potential Utility Service Disruptions.</p> <p>Prior to installation, the City shall consult with SCWA, SRCSD, CSD-1, and PG&E to determine proper installation methods and final design criteria to minimize the potential for disruptions to existing and planned utilities.</p> | I | CD (E), EWR |
| IMPROVEMENT PLAN REQUIREMENTS | | | | |
| 79. | <p>Improvement Plans</p> <p>The improvement plans for the required public and private subdivision improvements necessary to serve any and all phases of development shall be reviewed and approved by the Community Development Department prior to approval of a Final Map.</p> | | M | CD(E) |

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| 80. 3A.9-4: | <p><i>Inspect and Evaluate Existing Dams Within and Upstream of the Project Site and Make Improvements if Necessary.</i></p> <p>Prior to submittal to the City of tentative maps or improvement plans the owner/applicant shall conduct studies to determine the extent of inundation in the case of dam failure. If the studies determine potential exposure of people or structures to a significant risk of flooding as a result of the failure of a dam, the owner/applicants shall implement of any feasible recommendations provided in that study, potentially through drainage improvements, subject to the approval of the City.</p> <p><i>Standard Construction Specifications and Details</i></p> | I, M | CD(E)(P) |
| 81. | <p>Public and private improvements, including roadways, curbs, gutters, sidewalks, bicycle lanes and trails, streetlights, underground infrastructure, landscaping and irrigation and all other improvements shall be provided in accordance with the latest edition of the City of Folsom <u>Standard Construction Specifications and Details</u> and the <u>Design and Procedures Manual and Improvement Standards</u>.</p> | I | CD (P) CD (E) |

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| 82. | <p><i>Water and Sewer Infrastructure</i></p> <p>All publicly owned water and sewer infrastructure shall be placed within the street right of way. In the event that a public water or sewer main needs to be placed in an area other than the public right of way such as through an open space corridor, landscaped area, etc. an access road shall be designed and constructed to allow for the operations, maintenance and replacement of the public water or sewer line along the entire water and/or sewer line alignment. The public water and sewer mains shall be publicly owned and maintained within any street and public sewer and water main easements shall be provided and in no event shall a public water or public sewer line be placed on private residential property. For example, installing a public water main on the property line between two single family homes. The domestic water and irrigation system shall be separately metered per City of Folsom <u><i>Standard Construction Specifications and Details.</i></u></p> <p>All publicly owned water and sewer lines and services shall be accessible for operations, maintenance, and repair. Non-accessible situations would include placing mains and services behind retaining walls, placing public mains on private property, etc.</p> | I | CD (E) |
| 83. | <p><i>SPTC-JPA Approval</i></p> <p>The owner/applicant shall cooperate with the City to obtain written approval from both the Sacramento Placererville Transportation Corridor-Joint Powers Authority (SPTC-JPA) and the Public Utilities Commission (PUC) for any proposed crossing(s) of work within the existing JPA corridor which parallels Old Placererville Road. The owner/applicant shall provide written approval from both the SPTC-JPA and as required by the PUC to the City prior to approval of grading and/or improvement plans. The owner applicant shall provide all encroachment permits from the SPTC-JPA and PUC as necessary.</p> | I | CD (E) |

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| 84. | 3A1-5 <i>Lighting Plan</i> | <p>The owner/applicant shall submit a lighting plan for the project to the Community Development Department. The lighting plan shall be consistent with the Design Guidelines:</p> <ul style="list-style-type: none"> • shield or screen lighting fixtures to direct the light downward and prevent light spill on adjacent properties; • place and shield or screen flood and area lighting needed for construction activities, nighttime sporting activities, and/or security so as not to disturb adjacent residential areas and passing motorists; • for public lighting in residential neighborhoods, prohibit the use of light fixtures that are of unusually high intensity or that blink or flash; • use appropriate building materials (such as low-glare glass, low-glare building glaze or finish, neutral, earthtoned colored paint and roofing materials), shielded or screened lighting, and appropriate signage in the office/commercial areas to prevent light and glare from adversely affecting motorists on nearby roadways; and • design exterior on-site lighting as an integral part of the building and landscaping design in the Specific Plan Area. Lighting fixtures shall be architecturally consistent with the overall site design. Lights used on signage should be directed to light only the sign face with no off site glare. | I | CD (P) |
| 85. | 3B. 1-2a. | <p><i>Above Ground Utility Site Design Review Application</i> The owner/applicant shall submit a Site Design Review Application for all above ground utility installations (water tanks, booster pumps stations, etc.) to the Community Development Department to ensure these facilities are adequately screened. These above ground utility installations shall be designed to be adequately screened and/or blended into the hillsides through use of berming, landscaping or through the use of walls or fences to the satisfaction of the Community Development Department.</p> | G, I | CD (P) (E) EWR |

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| 86 | | <p>Utility Coordination The owner/applicant shall coordinate the planning, development and completion of this project with the various utility agencies (i.e., SMUD, PG&E, etc.). The owner/applicant shall provide the City with written confirmation of public utility service prior to approval of all final maps.</p> | I | CD (P) CD (E) |
| 87. | 3B.7-4 | <p>Implement Corrosion Protection Measures. The owner/applicant shall be required to provide that all underground metallic fittings, appurtenances and piping in the City's water systems include a cathodic protection system to protect these facilities from corrosion. The cathodic protection system shall be prepared by a licensed geotechnical or civil engineer and the system shall be reviewed and approved by the City prior to approval of improvement plans.</p> | I | CDD(E), EWR |
| 88. | | <p>Replacing Hazardous Facilities The owner/applicant shall be responsible for replacing any and all damaged or hazardous public sidewalk, curb and gutter, and/or bicycle trail facilities along the site frontage and/or boundaries, including pre-existing conditions and construction damage, to the satisfaction of the Community Development Department.</p> | I, OG | CD |
| 89. | | <p>Water Meter Network The owner/applicant shall pay for, furnish, and install all infrastructure associated with the water meter fixed network system.</p> | | |
| 90 | | <p>Final Design The final design of all sound walls, fences, and gates shall be subject to review and approval by the Community Development Department.</p> | | |

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| 91 | | <p>Temporary Detention Basin The owner/applicant shall be responsible for the design and construction of the temporary water quality basin which will impact lots 23 through 29 of the Broadstone Estates subdivision. Upon construction, a maintenance and access easement and public drainage easement shall be granted to the City of Folsom over the entire basin.</p> <p>The owner/applicant shall be solely responsible for the removal of the temporary water quality basin at such time as the water quality/detention basin is no longer required. Lots 23 through 29 of the Broadstone Estates subdivision map shall not be created with a final map until it has been determined that the downstream permanent detention basin has been constructed and is operational and the temporary detention basin is abandoned, removed and regraded to allow for home construction to the satisfaction of the City.</p> | I | CD (E) |
| 92 | | <p>Old Placerville Road The City may consider the closure and re-alignment of Old Placerville Road between US Highway 50 and future Alder Creek Parkway as part of future development in the Folsom Plan Area, consistent with the project Folsom Plan Area EIR. The removal of the existing asphalt concrete pavement on any future abandoned segment of Old Placerville Road will not be permitted without the prior approval of the City.</p> | I | CD (E) |

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| 93 | <p><i>Placerville Road/Alder Creek Parkway Intersection</i></p> <p>Prior to the issuance of the first building permit, the owner/applicant shall have completed all off site road and intersection improvements from the on-site terminus of Dewy Oak Drive, Dehone Drive to Purple Sage Drive and to Alder Creek Parkway, ultimately to the Placerville Road/Alder Creek Parkway intersection and it shall be operational, to the satisfaction of the City. These improvements are to be applied to the existing Placerville Road alignment and geometry;</p> <p>Two lanes (one in each direction) of Alder Creek Parkway shall be constructed from Placerville Road to the proposed intersection of Purple Sage Drive and Alder Creek Parkway and the segment of Purple Sage Drive connecting to the local streets within the project to provide the required secondary access.</p> <p>Southbound on Placerville Road, the lane configuration shall include the addition of a southbound left turn lane consisting of 200 feet transitional length plus 140 feet storage length, excluding appropriate tapers, to accommodate anticipated vehicle queuing and deceleration for the southbound left turn lane onto eastbound Alder Creek Parkway. The resulting southbound lane configuration will be two lanes, one left turn lane, one through lane.</p> <p>Northbound on Placerville Road the lane configuration shall include the addition of a northbound right turn lane consisting of 180 feet transition length. The resulting northbound lane configuration will be one lane, a shared right turn and through lane.</p> | I, B | CD(E), PW |
| 94. | <p><i>Future Utility Lines</i></p> <p>All future utility lines lower than 69 KV that are to be built within the project, shall be placed underground within and along the perimeter of the project at the developer's cost. The owner/applicant shall dedicate to SMUD all necessary underground easements for the electrical facilities that will be necessary to service development of the project.</p> | I | CD(E), EWR |

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| 95. | | <p>Off-site Trunk Sewer Main The owner/applicant shall design and construct the off-site trunk sewer main as shown in Preliminary Offsite Infrastructure Plan attached to the vesting tentative subdivision map. Owner/applicant may propose an alternative alignment for routing the sewer backbone infrastructure in conformance with the Wastewater Master Plan Update subject to the sole discretion of the City. The off-site sewer trunk mains, the sewer maintenance roads, sanitary sewer lift station(s), and sewer forced mains extended across US Highway 50 to the existing Sacramento Regional County Sanitation District (SRCSD) lift station shall be completed and accepted by the City for operation and maintenance prior to issuance of the first building permit in the project.</p> <p>The owner/applicant shall be responsible for constructing any and all odor control facilities, providing high-velocity hydraulic cleaning and vacuum cleaning of select sewer mains and providing temporary supplemental flows into select sewer mains as determined by the City until such time the peak average flows are met in the Folsom Plan Area backbone sewer system in accordance with the Wastewater Master Plan Update.</p> | I | CD(E), PW, EWR |
| 96. | | <p>Vertical Curb All curbs located adjacent to landscaping, whether natural or manicured, and where parking is allowed shall be vertical.</p> | I | CD (P) (B) |
| 97. | | <p>Class II Bike Lanes All Class II bike lanes shall be striped and painted green. No parking shall be permitted within the Class II bike lanes.</p> | I | CD (E) (P) |

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| 98. | | <p>Sewer Maintenance Road The owner/applicant shall provide an asphalt concrete (AC) maintenance road (a minimum of 12 feet wide) which extends from East Bidwell Street (formerly Scott Road) to the future sanitary sewer lift station on the proposed future extension of Alder Creek Parkway. The owner/applicant shall also construct an asphalt concrete (AC) maintenance road (a minimum of 12 feet wide) which extends from Placerville Road to Alder Creek Parkway, as shown on the Preliminary Off Site Infrastructure Plan. The AC maintenance road shall be designed to meet City Standards for utility vehicle loads including, but not limited to, vector trucks, fire vehicles, and fire apparatus and other maintenance vehicles.</p> | I | CD (E) |
| 99. | | <p>Parks and Recreation The following measures shall be implemented to the satisfaction of the Parks and Recreation Department:</p> <ol style="list-style-type: none"> 1. The Owner/Applicant will pay Parkland Dedication In-Lieu fees based on 0.0146 AC. per single-family unit resulting in a total parkland dedication requirement of 1.04 acres. The in-lieu fee shall be calculated based on a Complete Summary Appraisal prepared to establish a Fair Market Value as defined by the Folsom Municipal Code (FMC 16.32.040). 2. The Owner/Applicant will provide the proposed Class I bike trail alignments and connections consistent with the Bikeways Master Plan and Illustrative Master Plan for Broadstone Estates Exhibit dated October 8, 2015. The Owner/Applicant may enter into a construction reimbursement agreement with the City in the future to facilitate efficient delivery of the trail facilities to the public 3. The Class I Bike Trail and associated drainage swales shall be placed in a separate lot and granted to the City of Folsom. The trail shall be designed to accommodate regular vehicular access by maintenance vehicles using the trail to access the Future Zone 4 water tank. | I | CD, PR |

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| 100. | 3A 11-4 | <p><i>Noise Barriers</i> In conjunction with the submittal of improvement plans for each proposed development phase where noise barrier locations are required, the owner/applicant shall show on the Improvement Plans that sound walls and/or landscaped berms shall be constructed as shown on the Preliminary Grading and Drainage plan dated March 9, 2017.</p> <p>The solid noise barriers shall be no less than the height shown on the Preliminary Grading and Drainage Plan dated March 9, 2017, relative to building pad elevation and shall be confirmed based upon the final approved site and grading plans. Noise barrier walls shall be constructed of decorative split face concrete masonry units and shall be treated with an anti-graffiti treatment. Abrupt transitions exceeding two feet in height shall be avoided. The Grading and/or Improvement Plans shall be subject to review and approval by the City Engineer.</p> | I | CD (E) (P) |

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| 101. | | <p>Master Plan Updates The City has approved the Folsom Plan Area Storm Drainage Master Plan, the Folsom Plan Area Water System Master Plan and the Folsom Plan Area Wastewater Master Plan Update. The owner/applicant shall submit complete updates to each of these approved master plans for the proposed changes to each master plan as a result of the proposed project. The updates to each master plan for the proposed project shall be reviewed and approved by the City prior to approval of grading and/or improvement plans.</p> <p>The plans shall be accompanied by engineering studies supporting the sizing, location, and timing of the proposed facilities. Improvements shall be constructed in phases as the project develops in accordance with the approved master plans, including any necessary off-site improvements to support development of a particular phase or phases, subject to prior approval by the City. Off-site improvements may include roadways to provide secondary access, water transmission lines or distribution facilities to provide a looped water system, sewer trunk mains and lift stations, water quality facilities, non-potable water pipelines and infrastructure, and drainage facilities including on or off-site detention. No changes in infrastructure from that shown on the approved master plan shall be permitted unless and until the applicable master plan has been revised and approved by the City. Final lot configurations may need to be modified to accommodate the improvements identified in these studies to the satisfaction of the City.</p> <p>The owner/applicant shall provide sanitary sewer, water and storm drainage improvements with corresponding easements, as necessary, in accordance with these studies and the latest edition of the City of Folsom <u>Standard Construction Specifications and Details</u>, and the <u>Design and Procedures Manual and Improvement Standards</u>.</p> <p>The storm drainage design shall provide for no net increase in run-off under post-development conditions.</p> | G,I | CDD(E), EWR, PW |

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| 102. | 3A 3-1a | <p><i>Design Stormwater Drainage Plans and Erosion and Sediment Control Plans to Avoid and Minimize Erosion and Runoff to All Wetlands and Other Waters That Are to Remain on the project and Use Low Impact Development Features.</i></p> <p>To minimize indirect effects on water quality and wetland hydrology, the owner/applicant shall include stormwater drainage plans and erosion and sediment control plans in their grading and/or improvement plans and shall submit these plans to the City for review and approval. Prior to approval of grading and/or improvement plans, the owner/applicant for any particular discretionary development application shall obtain a NPDES Construction General Permit and Grading Permit, comply with the City's Grading Ordinance and City drainage and stormwater quality standards, and commit to implementing all measures in their drainage plans and erosion and sediment control plans to avoid and minimize erosion and runoff into Alder Creek and all wetlands and other waters that would remain on-site.</p> <p>The owner/applicant shall implement stormwater quality treatment controls consistent with the Stormwater Quality Design Manual for Sacramento and South Placer Regions in effect at the time the application is submitted. Appropriate runoff controls such as berms, storm gates, off-stream detention basins, overflow collection areas, filtration systems, and sediment traps shall be implemented to control siltation and the potential discharge of pollutants. Development plans shall incorporate Low Impact Development (LID) features, such as pervious strips, permeable pavements, bioretention ponds, vegetated swales, disconnected rain gutter downspouts, and rain gardens, where appropriate. Use of LID features is recommended by the EPA to minimize impacts on water quality, hydrology, and stream geomorphology and is specified as a method for protecting water quality in the proposed specific plan. In addition, free spanning bridge systems shall be used for all roadway crossings over wetlands and other waters that are retained in the on-site open space. These bridge systems would maintain the natural and restored channels of creeks, including the associated wetlands, and would be designed with sufficient span width and depth to provide for wildlife movement along the creek corridors even during high-flow or flood events, as specified in the 404 permit. The owner/applicant shall be responsible for all necessary off-site improvements needed to support the Broadstone Estates drainage system.</p> | G, I | CD (E), PW PW (Sacto. Co. or El Dorado Co.) CALTRANS USACE CVRWQCB |

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| 103. | <p>Best Management Practices The storm drain improvement plans shall provide for “Best Management Practices” that meet the requirements of the water quality standards of the City’s National Pollutant Discharge Elimination System Permit issued by the State Regional Water Quality Control Board.</p> <p>Each proposed project development shall result in no net change to peak flows into Alder Creek and associated tributaries, or to Buffalo Creek, Carson Creek, and Coyote Creek. The owner/applicant shall establish a baseline of conditions for drainage on-site. The baseline-flow conditions shall be established for 2-, 5-, and 100-year storm events. These baseline conditions shall be used to develop monitoring standards for the stormwater system on the Specific Plan Area. The baseline conditions, monitoring standards, and a monitoring program shall be submitted to USACE and the City for their approval. Water quality and detention basins shall be designed and constructed to ensure that the performance standards, which are described in Chapter 3A.9, “Hydrology and Water Quality,” are met and shall be designed as off-stream detention basins.</p> <p>Discharge sites into Alder Creek and associated tributaries, as well as tributaries to Carson Creek, Coyote Creek, and Buffalo Creek, shall be monitored to ensure that pre-project conditions are being met. Corrective measures shall be implemented as necessary. The mitigation measures will be satisfied when the monitoring standards are met for 5 consecutive years without undertaking corrective measures to meet the performance standard.</p> | G, I | CD (E) |

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| 104. | <p>Litter Control During Construction, the owner/applicant shall be responsible for litter control and sweeping of all paved surfaces in accordance with City standards. All on-site storm drains shall be cleaned immediately before the commencement of the rainy season (October 15).</p> | OG | CD (E) |
| FIRE DEPT REQUIREMENTS | | | |
| 105. | <p>Incorporate Fire Flow Requirements into Project Designs. The owner/applicant shall incorporate into their project designs fire flow requirements based on the California Fire Code, Folsom Fire Code and shall verify to the City of Folsom Fire Department that adequate water flow is available, prior to approval of improvement plans and issuance of occupancy permits or final inspections for all project phases.</p> | I, B | CD (E) Fire |
| 106. | <p>Prepare fuel modification plan (FMP). The owner/applicant shall submit a Fuel Modification Plan to the City for review and preliminary approval from the Fire Code Official prior to any Final and/or Parcel Map. Final approval of the plan by the Fire Code Official shall occur prior to the issuance of a permit for any new construction. A Fuel Modification Plan shall consist of a set of scaled plans showing fuel modification zones indicated with applicable assessment notes, a detailed landscape plan and an irrigation plan. A fuel modification plan submitted for approval shall be prepared by one of the following: a California state licensed landscape architect, or state licensed landscape contractor, or a landscape designed, or an individual with expertise acceptable to the Fire Code Official.</p> <p>The owner/applicant agree to be responsible for the long-term maintenance of the Fuel Modification Plan. Notification of fuel modification requirements are to be made upon sale to new property owners. Proposed changes to the approved Fuel Modification Plan shall be submitted to the Fire Code Official for approval prior to implementation.</p> | G,I,M,B | CD (P) FD |

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| 107. | <p><i>All-Weather Access and Fire Hydrants</i></p> <p>The owner/applicant shall provide all-weather access and fire hydrants before combustible materials are allowed on any project site or other approved alternative method as approved by the Fire Code Official/Fire Chief. All-weather emergency access roads and fire hydrants (tested and flushed) shall be provided before combustible material or vertical construction is allowed on any project site or other approved alternative method as approved by the Fire Code Official/Fire Chief. (All-weather access is defined as six inches of compacted aggregate base from May 1 to September 30 and two inch asphalt concrete over six inch aggregate base from October 1 to April 30).</p> <p>The building shall have illuminated addresses visible from the street or drive fronting the property. Size and location of address identification shall be reviewed and approved by the Fire Marshal.</p> <ul style="list-style-type: none"> • The minimum fire flow for residential dwellings is 1,000 gpm at 20 psi for houses 3,600 sq. ft. and less, 1,750 gpm for dwellings greater than 3,600 sq. ft. in area, and 2,000 gpm for dwellings greater than 4,800 sq. ft. up to 6,200 sq. ft. in area. Please determine the maximum size homes that will be built in this subdivision. A water model analysis that proves the minimum fire flow will be required before any permits are issued. • All public streets shall meet City of Folsom Street Standards unless an alternative is specifically included within this approval. • The maximum length of any dead end street shall not exceed 500 feet in accordance with the Folsom Fire Code. Several streets indicated on the plans are dead ends greater than 500 feet. In such cases, a second emergency access will be required. • All-weather emergency access roads and fire hydrants (tested and flushed) shall be provided before combustible material storage or vertical construction is allowed. All-weather access is defined as 6" of compacted AB from May 1 to September 30 and 2" AC over 6" AB from October 1 to April 30 • The first Fire Station planned for the Folsom Ranch Plan Area shall be completed and operational at the time that the threshold of 1,500 occupied homes within the Folsom Ranch Plan Area is met. | I | CD (E) Fire |

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| 108. | 3A 14-2 | <p><i>Incorporate California Fire Code; City of Folsom Fire Code Requirements; and EDHFD Requirements, if Necessary, into Project Design and Submit Project Design to the City of Folsom Fire Department for Review and Approval.</i></p> <p>To reduce impacts related to the provision of new fire services, the owner/applicant shall do the following, as described below: Incorporate into project designs fire flow requirements based on the California Fire Code, Folsom Fire Code (City of Folsom Municipal Code Title 8, Chapter 8.36), and other applicable requirements based on the City of Folsom Fire Department fire prevention standards. Improvement plans showing the incorporation of automatic sprinkler systems, the availability of adequate fire flow, and the locations of hydrants shall be submitted to the City of Folsom Fire Department for review and approval. In addition, approved plans showing access design shall be provided to the City of Folsom Fire Department as described by Zoning Code Section 17.57.080 (“Vehicular Access Requirements”). These plans shall describe access-road length, dimensions, and finished surfaces for firefighting equipment. The installation of security gates across a fire apparatus access road shall be approved by the City of Folsom Fire Department. The design and operation of gates and barricades shall be in accordance with the Sacramento County Emergency Access Gates and Barriers Standard, as required by the City of Folsom Fire Code.</p> | I, B, O | FD PW CD (E) |
| 109. | | <p><i>Submit a Fire Systems New Buildings, Additions, and Alterations Document Submittal List to the City of Folsom Community Development Department Building Division</i></p> <p>The Fire Dept. shall review and approve any improvement plans or building permits for accessibility of emergency fire equipment, fire hydrant flow location, and other construction features. The City shall not authorize the occupancy of any structures until the owner/applicant have obtained a Certificate of Occupancy from the City of Folsom Community Development Department verifying that all fire prevention items have been addressed on-site to the satisfaction of the City of Folsom Fire Department.</p> | I, B | CD (B) Fire |

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| 110. | | <p><i>Reclaimed Water Pipe</i></p> <p>The owner/applicant shall install a reclaimed water “purple” pipe conveyance and irrigation system for all proposed landscaping for the project including, but not limited to, landscape corridors along roadways, median islands within roadways, future park sites, school sites, open space parcels either publicly maintained or privately maintained by the owner/applicant, etc. in accordance the Folsom Plan Area Specific Plan Environmental Impact Report. The reclaimed water pipe conveyance and irrigation systems shall be designed and maintained by the owner/applicant to accommodate the future conversion of these irrigation systems from potable water to non-potable water at such time the non-potable water systems is constructed and installed in accordance with the 2014 FPA Recycled Water Analysis 2.0. The owner/applicant shall include the reclaimed water pipe conveyance and irrigation systems on all future landscape plans within the project to the satisfaction of the City.</p> | I | CD (E) (P) EWR, PK |

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| 111. | | <p>Landscaping Plans Final landscape plans and specifications shall be prepared by a registered landscape architect and approved by the City prior to the approval of improvement plans. Said plans shall include all on-site landscape specifications and details, and shall comply with all State and local rules, regulations, Governor's declarations and restrictions pertaining to water conservation and outdoor landscaping.</p> <p>Landscape shall meet shade requirements as outlined in the <u>Folsom Municipal Code Chapter 17.57</u> where applicable. The landscape plans shall comply and implement water efficient requirements as adopted by the State of California (Assembly Bill 1881) (State Model Water Efficient Landscape Ordinance) until such time the City of Folsom adopts its own Water Efficient Landscape Ordinance at which time the owner/applicant shall comply with any new ordinance. Shade and ornamental trees shall be maintained according to the most current American National Standards for Tree Care Operations (ANSI A-300) by qualified tree care professionals. Tree topping for height reduction, view protection, light clearance or any other purpose shall not be allowed. Specialty-style pruning, such as pollarding, shall be specified within the approved landscape plans and shall be implemented during a 5-year establishment and training period. Landscaping installed in open spaces located between tiers of lots shall be chosen for resistance to fire and limited fuel production.</p> <p>Furthermore, the owner/applicant shall comply with city-wide landscape rules or regulations on water usage. Owner/applicant shall comply with any state or local rules and regulations relating to landscape water usage and landscaping requirements necessitated to mitigate for drought conditions on all landscaping in the Broadstone Estates Project.</p> | I, OG | CD(P), PW |
| 112. | | <p>Right of Way Landscaping Landscaping along all road rights of way and in public open space lots shall be installed when the adjoining road or lots are constructed.</p> | I, OG | CD(P), PW |

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| MAP REQUIREMENTS | | | |
| 113. | <p><i>Subdivision Improvement Agreement</i> Prior to the approval of any Final Map, the owner/applicant shall enter into a subdivision improvement agreement with the City, identifying all required improvements, if any, to be constructed with each proposed phase of development. The owner/applicant shall provide security acceptable to the City, guaranteeing construction of the improvements.</p> | M | CD(E) |
| 114. | <p><i>Hillsdale Drive Lots 30 through 35 Inclusive</i> Lots 30 through 35, inclusive, shall not be created with a final map until such time as one of the following access options has been provided:</p> <ol style="list-style-type: none"> 1. An Emergency Vehicle Access Easement (EVA) (as shown on the Preliminary Off Site Infrastructure Plan) from the terminus of Hillsdale Drive, across the adjoining Russell Ranch property and joining the EVA located along the easterly side of Lot 29 2. Hillsdale Drive through the adjoining Russell Ranch Subdivision has been constructed, 3. A temporary turnaround has been constructed at the end of Hillsdale Drive. Any such turn-around will be subject to review and approval of the Fire Department. | | |
| 115. | <p><i>The Final Inclusionary Housing Plan</i> The Final Inclusionary Housing Plan and Final Inclusionary Housing Agreement as approved by the City Council shall be executed prior to recordation of the first Final Map for the Broadstone Estates Subdivision.</p> | M | CD (P)(E) |

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| 116. | | <p><i>Homeowner's Association</i></p> <p>The owner/applicant shall form a Homeowners Association for the ownership and maintenance of all landscaped open spaces and common areas on hillsides, slopes etc. (Lots A through G, I, and L), and all sound walls located along the northerly side of the subdivision.</p> <p>In addition, CC&R's shall be prepared by the owner/applicant and shall be subject to review and approval by the Community Development Department for compliance with this approval and with the Folsom Municipal Code and adopted policies, prior to the recordation of the Final Map.</p> | M | CD (P)(E) |

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| 117, | 3A 2-6 | <p>Conditions, Covenants, and Restrictions (CC&Rs) The owner/applicant shall disclose to the homebuyers in the Covenants, Conditions, and Restrictions (CC&Rs) and in the Department of Real Estate Public Report</p> <ol style="list-style-type: none"> 1) The soil in the subdivision may contain naturally occurring asbestos. 2) The collecting, digging, or removal of any stone, artifact, or other prehistoric or historic object located in public or open space areas, and the disturbance of any archaeological site or historic property, is prohibited. 3) The project site is located within close proximity to the Mather Airport flight path and that overflight noise may be present at various times. 4) That all properties located within one mile of an on- or off-site area zoned or used for agricultural use (including livestock grazing) shall be accompanied by written disclosure from the transferor, in a form approved by the City of Folsom, advising any transferee of the potential adverse odor impacts from surrounding agricultural operations which disclosure shall direct the transferee to contact the County of Sacramento concerning any such property within the County zoned for agricultural uses within one mile of the subject property being transferred. 5) All sound walls are located on Open Space property owned and maintained by the Homeowners Association. These walls cannot be altered by the adjoining homeowners. | M | CD (P) PK |

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| 118. | | <p>Financing Districts The owner/applicant shall form a Landscape and Lighting Assessment District, a Community Services District, and/ or a Home Owners Association, which shall be responsible for maintenance of all common areas, maintenance of all on-site landscaping, maintenance of storm drainage facilities, maintenance of storm water detention/detention basins and associated channels, maintenance of water quality ponds, and maintenance of any other site facilities in the subdivision throughout the life of the project to the satisfaction of the Community Development Department. Vegetation or plant spacing shall not be less than that depicted on the final landscape plan, unless tree removal is approved by the Community Development Department because the spacing between trees will be too close on center as they mature.</p> | M | CD (P) CD (E) |
| 119. | | <p>Public Utility Easements The owner/applicant shall dedicate public utility easements for underground facilities on properties adjacent to the streets. A minimum of twelve and one-half-foot (12.5') wide Public Utility Easements for underground facilities (i.e., SMUD, Pacific Gas and Electric, cable television, telephone) shall be dedicated adjacent to all private and public street rights-of-way. The owner/applicant shall dedicate additional width to accommodate extraordinary facilities as determined by the City. The width of the public utility easements adjacent to public and private right of way may be reduced with prior approval from public utility companies.</p> | M | CD (E) |
| 120. | | <p>Backbone Infrastructure As provided for in the ARDA and the Amendment No. 1 thereto, the owner/applicant shall provide fully executed grant deeds, legal descriptions, and plats for all necessary Backbone Infrastructure to serve the project, including but not limited to lands, public rights of way, public utility easements, public water main easements, public sewer easements, irrevocable offers of dedication and temporary construction easements. All required easements as listed necessary for the Backbone Infrastructure shall be reviewed and approved by the City and recorded with the Sacramento County Recorder pursuant to the timing requirements set forth in Section 3.8 of the ARDA.</p> | M | CD (E) |

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| 121. | | <p>New Permanent Benchmarks The owner/applicant shall provide and establish new permanent benchmarks on the (NAVD 88) datum in various locations within the subdivision or at any other locations in the vicinity of the off-site Backbone Infrastructure as directed by the City Engineer. The type and specifications for the permanent benchmarks shall be provided by the City. The new benchmarks shall be placed by the owner/applicant within 6 months from the date of approval of the vesting tentative subdivision map.</p> | M | CD (E) |
| 122. | | <p>Maintenance Plan Final Approval No final map will be accepted by the city for processing and review until such time that the Open Space Management and Financing Plan, the Drainage Facilities Maintenance and Financing Plan and the Parks, Trails, Landscape Corridors, Medians and Open Space Maintenance Community Facilities District is formed and approved by the City Council.</p> | M | CD (E) |
| 123. | | <p>Community Facilities Districts and Financing Plans Prior to approval of the first small lot final map and in accordance with Amendment No. 1 of the ARDA and any further amendments thereto, the owner/applicant is required to complete the following:</p> <ul style="list-style-type: none"> • Formation and approval by the City Council of the Sewer and Water CFD, • Formation and approval by the City Council of the Aquatic Center CFD, • Formation and approval by the City Council of the Parks, Trails, Landscape Corridors, Medians and Open Space Maintenance CFD, • Formation and approval by the City Council of the Storm Drainage Maintenance CFD (unless such drainage maintenance is included in the Services CFD) , • Formation and approval by the City Council of the Street Maintenance District/Lighting Maintenance District CFD (unless such street maintenance is included in the Services CFD) • Formation and approval by the City Council of the Open Space Management and Financing Plan. • Formation and approval by the City Council of the Drainage Facilities Maintenance and Financing Plan | M | CD (E) |

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| 124. 4.7-1 3A 18-1 | <p>Water Supply Availability The owner/applicant shall submit proof of compliance with Government Code Section 66473.7 (SB 221) by demonstrating the availability of a reliable and sufficient water supply from a public water system for the amount of development that would be authorized by the final subdivision map. Such a demonstration shall consist of information showing that both existing sources are available or needed supplies and improvements will be in place prior to occupancy. The written proof of compliance shall be provided to the City and approved by the City prior to approval of any final map.</p> | M | CD (E) Utilities |
| 125. 3A 18-2a | <p>Submit Proof of Adequate Off-Site Water Conveyance Facilities and Implement Off-Site Infrastructure Service System or Ensure That Adequate Financing Is Secured. The owner/applicant shall submit proof to the City of Folsom that an adequate off-site water conveyance system either has been constructed or is ensured to the City's satisfaction. The off-site water conveyance infrastructure sufficient to provide adequate service to the project shall be in place for the amount of development identified in the tentative map before approval of a final subdivision map and issuance of building permits for all project phases, or their financing shall be ensured to the satisfaction of the City. A building permit shall not be issued for any building within the project until the water conveyance infrastructure sufficient to serve such building has been constructed and is in place to the satisfaction of the City.</p> | M, B, O | CD (E) (B), PW |
| 126. 3A 16-3 | <p>Demonstrate Adequate SRWTP Wastewater Treatment Capacity. The owner/applicant shall demonstrate adequate capacity at the Sacramento Regional Water Treatment Plant for new wastewater flows generated by the project. This shall involve preparing a tentative map-level study and paying connection and capacity fees as identified by Sacramento Regional County Sanitation District. Approval of the final map and issuance of building permits for all project phases shall not be granted until the City verifies adequate Sacramento Regional Water Treatment Plant capacity is available for the amount of development identified in the tentative map. The written approval from the Sacramento Regional County Sanitation District shall be provided to the City.</p> | M, B | CD (E) (B), PW |

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| 127. | 3A 16-1 | <p>Submit Proof of Adequate On- and Off-Site Wastewater Conveyance Facilities and Implement On- and Off-Site Infrastructure Service Systems or Ensure That Adequate Financing Is Secured.</p> <p>The owner/applicant shall submit proof to the City of Folsom that an adequate wastewater conveyance system either has been constructed or is ensured through payment or other sureties to the City's satisfaction. Both on-site wastewater conveyance infrastructure and off-site force main sufficient to provide adequate service to the project shall be in place for the amount of development identified in the tentative map before approval of the final map and issuance of building permits for all project phases, or their financing shall be ensured to the satisfaction of the City.</p> | M, B | CD (E) (B) PW |
| 128. | | <p>Centralized Mail Delivery Units</p> <p>All Final Maps shall show easements or other mapped provisions for the placement of centralized mail delivery units. The owner/applicant shall provide a concrete base for the placement of any centralized mail delivery unit. Specifications and location of such base shall be determined pursuant to the applicable requirements of the U. S. Postal Service and the City of Folsom Community Development Department, with due consideration for street light location, traffic safety, security, and consumer convenience.</p> | M | CD (E) |
| 129. | | <p>Street Names</p> <p>The street names identified below shall be used for the small lot final map:</p> <p>Dewy Oak Drive Hinsdale Drive Dehone Drive Purple Sage Drive Rocky Hills Drive Spotted Dog Court</p> | M | CD (E) |
| 130. | | <p>Credit Reimbursement Agreement</p> <p>Prior to the recordation of the first final map, the owner/applicant and City shall enter into a credit and reimbursement agreement for constructed improvements that are included in the Folsom Plan Area's Public Facilities Financing Plan.</p> | M | CD (E) |

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| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|----------------------------|--|-------------------------|---------------------------------|
| <p>131. <u>3A.4-2a</u></p> | <p align="center">BUILDING PERMIT</p> <p><i>Implement Additional Measures to Reduce Operational GHG Emissions.</i></p> <p>Energy Efficiency</p> <ul style="list-style-type: none"> ▶ Include clean alternative energy features to promote energy self-sufficiency (e.g., photovoltaic cells, solar thermal electricity systems, small wind turbines). ▶ Design buildings to meet CEC Tier II requirements (e.g., exceeding the requirements of the Title 24 [as of 2007] by 35%). ▶ Site buildings to take advantage of shade and prevailing winds and design landscaping and sun screens to reduce energy use. ▶ Install efficient lighting in all buildings (including residential). Also install lighting control systems, where practical. Use daylight as an integral part of lighting systems in all buildings. ▶ Install light-colored “cool” pavements, and strategically located shade trees along all bicycle and pedestrian routes. <p>Water Conservation and Efficiency</p> <ul style="list-style-type: none"> ▶ With the exception of ornamental shade trees, use water-efficient landscapes with native, drought-resistant species in all public area and commercial landscaping. Use water-efficient turf in parks and other turf-dependent spaces. ▶ Install the infrastructure to use reclaimed water for landscape irrigation and/or washing cars. ▶ Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls. ▶ Design buildings and lots to be water-efficient. Only install water-efficient fixtures and appliances. | <p align="center">B</p> | <p align="center">CD (P)(B)</p> |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|---|---------------|------------------------|
| 131. Cont. | <p>3A.4-2a</p> <ul style="list-style-type: none"> ▶ Restrict watering methods (e.g., prohibit systems that apply water to nonvegetated surfaces) and control runoff. Prohibit businesses from using pressure washers for cleaning driveways, parking lots, sidewalks, and street surfaces. These restrictions should be included in the Covenants, Conditions, and Restrictions of the community. ▶ Provide education about water conservation and available programs and incentives. ▶ To reduce stormwater runoff, which typically bogs down wastewater treatment systems and increases their energy consumption, construct driveways to single-family detached residences and parking lots and driveways of multifamily residential uses with pervious surfaces. Possible designs include Hollywood drives (two concrete strips with vegetation or aggregate in between) and/or the use of porous concrete, porous asphalt, turf blocks, or pervious pavers. <p>Solid Waste Measures</p> <ul style="list-style-type: none"> ▶ Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard). ▶ Provide interior and exterior storage areas for recyclables and green waste at all buildings. ▶ Provide adequate recycling containers in public areas, including parks, school grounds, golf courses, and pedestrian zones in areas of mixed-use development. ▶ Provide education and publicity about reducing waste and available recycling services. <p>Transportation and Motor Vehicles</p> <ul style="list-style-type: none"> ▶ Promote ride-sharing programs and employment centers (e.g., by designating a certain percentage of parking spaces for ride-sharing vehicles, designating adequate passenger loading and unloading zones and waiting areas for ride-share vehicles, and providing a Web site or message board for coordinating ride-sharing). ▶ Provide the necessary facilities and infrastructure in all land use types to encourage the use of low- or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations). | B | |

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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|--|---------------|------------------------|
| 132. | | <p>Recorded Final Map Prior to the issuance of building permits, the owner/applicant shall provide a digital copy of the recorded Final Map (in AutoCAD format) to the Community Development Department.</p> | B | CD (E) |
| 133. | | <p>Recorded Final Map Prior to issuance of building permits, the owner/applicant shall provide the Folsom-Cordova Unified School District with a copy of the recorded Final Map.</p> | B | CD (P) FCUSD |
| 134. | | <p>Infrastructure Improvements Timing All on and off-site subdivision and Backbone Infrastructure improvements required to serve this project and any subsequent phase of the project, including but not limited to, roadway and transportation improvements, sanitary sewer, water, storm drainage, water quality/detention basins, etc. shall be completed to the satisfaction of the City prior to issuance of the first building permit within the project.</p> | B | CD (E) |
| 135. | 3A.11-5 | <p>Implement Measures to Reduce Noise from Project-Generated Stationary Sources. The owner/applicant shall implement the following measures to reduce the effect of noise levels generated by on-site stationary noise sources that would be located within 600 feet of any noise-sensitive receptor: ▲ Routine testing and preventive maintenance of emergency electrical generators shall be conducted during the less sensitive daytime hours (i.e., 7:00 a.m. to 6:00 p.m.). All electrical generators shall be equipped with noise control (e.g., muffler) devices in accordance with manufacturers' specifications. ▲ External mechanical equipment associated with buildings shall incorporate features designed to reduce noise emissions below the stationary noise source criteria. These features may include, but are not limited to, locating generators within equipment rooms or enclosures that incorporate noise-reduction features, such as acoustical louvers, and exhaust and intake silencers. Equipment enclosures shall be oriented so that major openings (i.e., intake louvers, exhaust) are directed away from nearby noise-sensitive receptors.</p> | B | CD (P)(B) |

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|------|--------------------|--|---------------|------------------------|
| 136. | | <p>Design Review Approval Prior to issuance of a building permit for any residential units within the subdivision, the owner/applicant shall obtain Design Review approval from the Planning Commission for all residences to be built within the subdivision. If the architecture is not consistent with the Broadstone Estates Design Guidelines, the owner applicant may modify the plans or apply for a modification to the Design Guidelines to be approved by the Planning Commission.</p> | B | CD (P) |
| 137. | 3A.7-5 | <p>Divert Seasonal Water Flows Away from Building Foundations. The owner/applicant shall either install subdrains (which typically consist of perforated pipe and gravel, surrounded by nonwoven geotextile fabric), or take such other actions as recommended by the geotechnical or civil engineer for the project that would serve to divert seasonal flows caused by surface infiltration, water seepage, and perched water during the winter months away from building foundations.</p> | B | CD (B)(P) |
| 138. | | <p>FCUSD Fees The owner/applicant agrees to pay to the Folsom Cordova Unified School District the maximum fee authorized by law for the construction and/or reconstruction of school facilities. The applicable fee shall be the fee established by the School District that is in effect at the time of the issuance of a building permit. Specifically, the owner/applicant agrees to pay any and all fees and charges and comply with any and all dedications or other requirements authorized under Section 17620 of the Education Code; Chapter 4.7 (commencing with Section 65970 of the Government Code; and sections 65995, 65995.5, and 65995.7 of the Government Code.</p> | B | CD (B) |

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| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|---|---------------|------------------------|
| | <p align="center">TRAFFIC, ACCESS, CIRCULATION, AND PARKING REQUIREMENTS</p> <p>It should be noted that many of the Transportation, Traffic, and Circulation mitigation measures identified below will be satisfied through the payment of fees. Below is a brief summary of the fee types and their purpose. The acronyms for each fee type noted below are further noted in the Implementation Schedule column of each applicable mitigation measure to clarify how each mitigation measure is anticipated to be satisfied.</p> <p>Public Facilities Financing Plan (PFFP):</p> <p>In January of 2014, the City of Folsom adopted the PFFP for the Folsom Plan Area which detailed all the infrastructure components to address full build out of the Plan Area. The PFFP includes various techniques including development fees to fund the necessary infrastructure. The City is currently in the process of preparing and adopting implementing ordinances and a nexus study required by State law to impose the associated development fees.</p> <p>Included in the PFFP are a number roadway projects including the Highway Interchanges that the White Rock Springs Ranch project will have cumulative impacts on within the Folsom Plan Area. The PFFP was designed to satisfy the “fair share” financing of all the Plan Area’s backbone roadway system. Participating in this fee program will satisfy numerous roadway mitigation measures as shown in the MMRP table.</p> <p>Sacramento County Transportation Development Fee (SCTDF) contribution:</p> <p>The City is establishing a “fair share” fee to mitigate roadway impacts outside the project boundaries and within unincorporated Sacramento County. This fee will be included in the City Facilities portion of the Public Facilities Financing Plan program and will be collected at the time of building permit issuance. The basis for the calculation of the fee is a report entitled, “Fair Share Cost Allocation Sacramento County & City of Folsom” dated January 2, 2014.</p> <p>Cal Trans/ City Memorandum of Understanding (Cal Trans MOU):</p> <p>The City of Folsom and Cal Trans entered into an MOU on December 17, 2014 to establish a fee mechanism to address the “fair share” impacts to Highway 50. The MOU identifies all the highway improvements for which there are mitigation measures and potential construction projects to address them. The City will establish a fee in the City Facilities portion of the Public Facilities Financing Plan and it will be collected at the time of building permit issuance.</p> | | |
| 139 | <p>3A 15-4b,d</p> <p>East Bidwell/Iron Point Prior to issuance of a building permit, the owner/applicant shall pay a fair share fee to the City of Folsom towards the modification to the westbound approach to the East Bidwell Street/Iron Point Road intersection to include three left-turn lanes, two through lanes, and one right-turn lane.</p> | B | CD (E), PW |

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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|--|---------------------|------------------------|
| 140. | 3A 15-4f | <p><i>Empire Ranch Road/Iron Point Road Intersection</i> To ensure that the Empire Ranch Road / Iron Point Road intersection operates at a LOS D or better, all of the following improvements are required:</p> <ul style="list-style-type: none"> • The eastbound approach shall be reconfigured to consist of one left-turn lane, two through lanes, and a right-turn lane. • The westbound approach shall be reconfigured to consist of two left-turn lanes, one through lane, and a through-right lane. • The northbound approach shall be reconfigured to consist of two left-turn lanes, three through lanes, and a right-turn lane. • The southbound approach shall be reconfigured to consist of two left-turn lanes, three through lanes, and a right-turn lane. | B (pay PFFP fee) | CD (E), PW |
| 141. | 3A 15-1s | <p>The owner/applicant shall pay its proportionate share of funding of improvements. <i>US 50 from Sunrise Boulevard to East Bidwell Street/Scott Road</i> Participate in Fair Share Funding of Improvements to Reduce Impacts on Eastbound U.S. 50 between Sunrise Boulevard to East Bidwell Street/Scott Road (Freeway Segment 4). To ensure that Eastbound U.S. 50 operates at an acceptable LOS between Folsom Boulevard and Prairie City Road an auxiliary lane shall be constructed. This improvement was recommended in the Traffic Operations Analysis Report for the U.S. 50 Auxiliary Lane Project. This improvement is included in the proposed 50 Corridor Mobility Fee Program. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by the owner/applicant, to reduce the impacts to Eastbound U.S. 50 between Sunrise Boulevard to East Bidwell Street/Scott Road (Freeway Segment 4).</p> | B (Caltrans MOU) | CD (E), PW |

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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|--|---------------------|------------------------|
| 142. | 3A 15-1u | <i>Westbound U.S. 50 between Prairie City Road and Folsom Boulevard</i> To ensure that Westbound U.S. 50 operates at an acceptable LOS between Prairie City Road and Folsom Boulevard, an auxiliary lane shall be constructed. This improvement was recommended in the Traffic Operations Analysis Report for the U.S. 50 Auxiliary Lane Project. This improvement is included in the proposed 50 Corridor Mobility Fee Program. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by the owner/applicant, to reduce the impacts to Westbound U.S. 50 between Prairie City Road and Folsom Boulevard. | B (Caltrans MOU) | CD (E), PW |
| 143. | 3A 15-1x | <i>U.S. 50 Eastbound/Prairie City Road Diverge</i> To ensure that Eastbound U.S. 50 operates at an acceptable LOS at the Prairie City Road off-ramp diverge, an auxiliary lane from the Folsom Boulevard merge shall be constructed. This improvement was recommended in the Traffic Operations Analysis Report for the U.S. 50 Auxiliary Lane Project. This auxiliary lane improvement is included in the proposed 50 Corridor Mobility Fee Program. The owner/applicant shall pay its proportionate share of funding of improvements to reduce the impacts to the U.S. 50 Eastbound/Prairie City Road diverge. | B (Caltrans MOU) | CD (E), PW |
| 144. | 3A 15-1y | <i>U.S. 50 Eastbound/Prairie City Road Direct Merge</i> To ensure that Eastbound U.S. 50 operates at an acceptable LOS at the Prairie City Road on-ramp direct merge, an auxiliary lane to the East Bidwell Street – Scott Road diverge shall be constructed. This auxiliary lane improvement included in the proposed 50 Corridor Mobility Fee Program. The owner/applicant shall pay its proportionate share of funding of improvements to reduce the impacts to the U.S. 50 Eastbound/Prairie City Road direct merge. | B (Caltrans MOU) | CD (E), PW |

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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|---|---------------------|------------------------|
| 145. | 3A 15-1z | <p><i>U.S. 50 Eastbound/Prairie City Road Flyover On-Ramp to Oak Avenue Parkway Off-Ramp Weave</i></p> <p>To ensure that Eastbound U.S. 50 operates at an acceptable LOS at the Prairie City Road flyover on-ramp to Oak Avenue Parkway off-ramp weave, an improvement acceptable to Caltrans shall be implemented to eliminate the unacceptable weaving conditions. Such an improvement may involve a “braided ramp”. The owner/applicant shall pay its proportionate share of funding of improvements to reduce the impacts to the U.S. 50 Eastbound / Prairie City Road flyover on-ramp to Oak Avenue Parkway off-ramp weave.</p> | B (PFFP) | CD (E), PW |
| 146. | 3A 15-1aa | <p><i>U.S. 50 Eastbound/Oak Avenue Parkway Loop Merge</i></p> <p>To ensure that Eastbound U.S. 50 operates at an acceptable LOS at the Oak Avenue Parkway loop merge, an auxiliary lane to the East Bidwell Street – Scott Road diverge shall be constructed. This auxiliary lane improvement is included in the proposed 50 Corridor Mobility Fee Program. The owner/applicant shall pay its proportionate share of funding of improvements to reduce the impacts to the U.S. 50 Eastbound/ Oak Avenue Parkway loop merge (Freeway Merge 9).</p> | B (Caltrans MOU) | CD (E), PW |
| 147. | 3A 15-1dd | <p><i>U.S. 50 Westbound/Empire Ranch Road Loop Ramp Merge</i></p> <p>To ensure that Westbound U.S. 50 operates at an acceptable LOS, the northbound Empire Ranch Road loop on-ramp should start the westbound auxiliary lane that ends at the East Bidwell Street – Scott Road off ramp. The slip on-ramp from southbound Empire Ranch Road would merge into this extended auxiliary lane. Improvements to this freeway segment shall be implemented by Caltrans. The owner/applicant shall pay its proportionate share of funding of improvements to reduce the impacts to the U.S. 50 Westbound/Empire Ranch Road loop ramp merge.</p> | B (Caltrans MOU) | CD (E), PW |
| 148. | 3A 15-1ee | <p><i>U.S. 50 Westbound/Oak Avenue Parkway Loop Ramp Merge</i></p> <p>To ensure that Westbound U.S. 50 operates at an acceptable LOS, the northbound Oak Avenue Parkway loop on-ramp should start the westbound auxiliary lane that ends at the Prairie City Road off-ramp. The slip on-ramp from southbound Oak Avenue Parkway would merge into this extended auxiliary lane. Improvements to this freeway segment shall be implemented by Caltrans. The owner/applicant shall pay its proportionate share of funding of improvements to reduce the impacts to the U.S. 50 Westbound/Oak Avenue Parkway loop ramp merge.</p> | B (Caltrans MOU) | CD (E), PW |

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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|--|----------------------------------|------------------------|
| 149. | 3A 15-1ff | <p><i>U.S. 50 Westbound/Prairie City Road Loop Ramp Merge</i> To ensure that Westbound U.S. 50 operates at an acceptable LOS at the Prairie City Road loop ramp merge, an auxiliary lane to the Folsom Boulevard off ramp diverge shall be constructed. This auxiliary lane improvement is included in the proposed 50 Corridor Mobility Fee Program. The owner/applicant shall pay its proportionate share of funding of improvements to reduce the impacts to the U.S. 50 Westbound/Prairie City Road Loop Ramp Merge.</p> | B (Caltrans MOU) | CD (E), PW |
| 150. | 3A-15-1gg | <p><i>U.S. 50 Westbound/Prairie City Road Direct Ramp Merge</i> To ensure that Westbound U.S. 50 operates at an acceptable LOS at the Prairie City Road direct ramp merge, an auxiliary lane to the Folsom Boulevard off ramp diverge shall be constructed. This auxiliary lane improvement is included in the proposed 50 Corridor Mobility Fee Program. The owner/applicant shall pay its proportionate share of funding of improvements, to reduce the impacts to the U.S. 50 Westbound/Prairie City Road direct ramp merge.</p> | B (Caltrans MOU) | CD (E), PW |
| 151. | 3A 15-4t | <p><i>Eastbound US 50 between Prairie City Road and Oak Avenue Parkway</i> To ensure that Eastbound US 50 operates at an acceptable LOS between Prairie City Road and Oak Avenue Parkway, the northbound Prairie City Road slip on-ramp should merge with the eastbound auxiliary lane that extends to and drops at the Oak Avenue Parkway off ramp and the southbound Prairie City Road flyover on-ramp should be braided over the Oak Avenue Parkway off ramp and start an extended full auxiliary lane to the East Bidwell Street – Scott Road off ramp. Improvements to this freeway segment shall be implemented by Caltrans. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by owner/applicant, to reduce the impacts to Eastbound U.S. 50 between Prairie City Road and Oak Avenue Parkway.</p> | B (pay PFFP/ Interchange fee) | CD (E), PW |

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 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|--|----------------------|------------------------|
| 152. | 3A 15-4u | <p><i>U.S. 50 Eastbound / Prairie City Road Slip Ramp Merge.</i> To ensure that Eastbound US 50 operates at an acceptable LOS, the northbound Prairie City Road slip on-ramp should start the eastbound auxiliary lane that extends to and drops at the Oak Avenue Parkway off ramp (see mitigation measure 3A.15-4u, w and x), and the southbound Prairie City Road flyover on-ramp should be braided over the Oak Avenue Parkway off ramp and start an extended full auxiliary lane to the East Bidwell Street – Scott Road off ramp. Improvements to this freeway segment shall be implemented by Caltrans. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by owner/applicant, to reduce the impacts to the U.S. 50 Eastbound / Prairie City Road slip ramp merge.</p> | B (pay PFFFP fee) | CD (E), PW |
| 153. | 3A 15-4v | <p><i>U.S. 50 Eastbound / Prairie City Road Flyover On-ramp to Oak Avenue Parkway Off Ramp Weave</i> To ensure that Eastbound US 50 operates at an acceptable LOS, the northbound Prairie City Road slip on-ramp should start the eastbound auxiliary lane that extends to and drops at the Oak Avenue Parkway off ramp (see mitigation measure 3A.15-4u, v and x), and the southbound Prairie City Road flyover on-ramp should be braided over the Oak Avenue Parkway off ramp and start an extended full auxiliary lane to the East Bidwell Street – Scott Road off ramp. Improvements to this freeway segment shall be implemented by Caltrans. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by the owner/applicant, to reduce the impacts to the U.S. 50 Eastbound / Prairie City Road Flyover On-ramp to Oak Avenue Parkway Off Ramp Weave.</p> | B (pay PFFFP fee) | CD (E), PW |

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| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|--|---------------------|------------------------|
| 154. 3A 15-4w | <p><i>U.S. 50 Eastbound / Oak Avenue Parkway Loop Ramp Merge</i> To ensure that Eastbound US 50 operates at an acceptable LOS, the southbound Oak Avenue Parkway loop on-ramp should merge with the eastbound auxiliary lane that starts at the southbound Prairie City Road braided flyover on-ramp and ends at the East Bidwell Street – Scott Road off ramp (see mitigation measure 3A.15-4u, v and w). Improvements to this freeway segment shall be implemented by Caltrans. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by the owner/applicant, to reduce the impacts to U.S. 50 Eastbound / Oak Avenue Parkway Loop Ramp Merge.</p> | B (pay PFFP fee) | CD (E), PW |
| 155. 3A 15-4x | <p><i>U.S. 50 Westbound / Empire Ranch Road Loop Ramp Merge</i> To ensure that Westbound US 50 operates at an acceptable LOS, the northbound Empire Ranch Road loop on-ramp should start the westbound auxiliary lane that ends at the East Bidwell Street – Scott Road off ramp. The slip on-ramp from southbound Empire Ranch Road slip ramp would merge into this extended auxiliary lane. Improvements to this freeway segment shall be implemented by Caltrans. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by owner/applicant, to reduce the impacts to the U.S. 50 Westbound / Empire Ranch Road loop ramp merge.</p> | B (pay PFFP fee) | CD (E), PW |
| 156. 3A 15-4y | <p><i>U.S. 50 Westbound / Prairie City Road Loop Ramp Merge</i> To ensure that Westbound US 50 operates at an acceptable LOS, the northbound Prairie City Road loop on-ramp should start the westbound auxiliary lane that continues beyond the Folsom Boulevard off ramp. The slip on-ramp from southbound Prairie City Road slip ramp would merge into this extended auxiliary lane. Improvements to this freeway segment shall be implemented by Caltrans. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by owner/applicant, to reduce the impacts to the U.S. 50 Westbound / Prairie City Road Loop Ramp Merge.</p> | B (pay PFFP fee) | CD (E), PW |

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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|---|-------------------------------------|------------------------|
| 157. | 3A 15-2a | Provide Options for Alternative Transportation Modes. The owner/applicant for any particular discretionary development application shall participate in capital improvements and operating funds for transit service to increase the percent of travel by transit. The project's fair-share participation and the associated timing of the improvements and service shall be identified in the project conditions of approval and/or the project's development agreement. Improvements and service shall be coordinated, as necessary, with Folsom Stage Lines and Sacramento RT. | B (pay PFFP fee and Transit fee) | CD (E), PW |
| 158 | 3A 15-1a | Folsom Boulevard/Blue Ravine Road Intersection To ensure that the Folsom Boulevard/Blue Ravine Road intersection operates at an acceptable LOS, the eastbound approach shall be reconfigured to consist of two left-turn lanes, one through lane, and one right-turn lane. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by owner/applicant, to reduce the impacts to the Folsom Boulevard/Blue Ravine Road intersection | B (pay PFFP fee) | CD (E), PW |
| 159. | 3A 15-1b | Sibley Street/ Blue Ravine Road Intersection To ensure that the Sibley Street/Blue Ravine Road intersection operates at an acceptable LOS, the northbound approach shall be reconfigured to consist of two left-turn lanes, two through lanes, and one right-turn lane. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by the owner/applicant, to reduce the impacts to the Sibley Street/Blue Ravine Road intersection | B (pay PFFP fee) | CD (E), PW |

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| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|---|---------------------|------------------------|
| 160. 3A.15-1i | <p><i>Grant Line Road/White Rock Road Intersection and to White Rock Road widening between the Rancho Cordova City limit to Prairie City Road</i></p> <p>Improvements shall be made to ensure that the Grant Line Road/White Rock Road intersection operates at an acceptable LOS. The currently County proposed White Rock Road widening project will widen and realign White Rock Road from the Rancho Cordova City limit to the El Dorado County line (this analysis assumes that the Proposed Project and build alternatives will widen White Rock Road to five lanes from Prairie City Road to the El Dorado County Line). This widening includes improvements to the Grant Line Road intersection and realigning White Rock Road to be the through movement. The improvements include two eastbound through lanes, one eastbound right turn lane, two northbound left turn lanes, two northbound right turn lanes, two westbound left turn lanes and two westbound through lanes. This improvement also includes the signalization of the White Rock Road and Grant Line Road intersection. With implementation of this improvement, the intersection would operate at an acceptable LOS A. The owner/applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to the Grant Line Road/White Rock Road intersection</p> | B (pay SCTDF) | CD (E), PW |
| 161 | <p><i>Eastbound U.S. 50 as an alternative to improvements at the Folsom Boulevard/U.S. 50 Eastbound Ramps Intersection</i></p> <p>The owner/applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to the Folsom Boulevard/U.S. 50 Eastbound Ramps intersection (Caltrans Intersection 4). To ensure that the Folsom Boulevard/U.S. 50 eastbound ramps intersection operates at an acceptable LOS, auxiliary lanes should be added to eastbound U.S. 50 from Hazel Avenue to east of Folsom Boulevard. This was recommended in the Traffic Operations Analysis Report for the U.S. 50 Auxiliary Lane Project.</p> | B (Caltrans MOU) | CD (E), PW |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|---|---------------------------|------------------------|
| 162. 3A.15-1p | <p>Grant Line Road/ State Route 16 Intersection To ensure that the Grant Line Road/State Route 16 intersection operates at an acceptable LOS, the northbound and southbound approaches shall be reconfigured to consist of one left-turn lane and one shared through/right-turn lane. Protected left-turn signal phasing shall be provided on the northbound and southbound approaches. Improvements to the Grant Line Road/State Route 16 intersection are contained within the County Development Fee Program, and are scheduled for Measure A funding. Improvements to this intersection shall be implemented by Caltrans, Sacramento County, and the City of Rancho Cordova. The owner/applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to the Grant Line Road/State Route 16 intersection.</p> | B (Caltrans MOU) SCTDF | CD (E), PW |
| 163. 3A.15-1q | <p>Eastbound U.S. 50 between Zinfandel Drive and Sunrise Boulevard To ensure that Eastbound U.S. 50 operates at an acceptable LOS between Zinfandel Drive and Sunrise Boulevard, a bus/carpool (HOV) lane shall be constructed. This improvement is currently planned as part of the Sacramento 50 Bus-Carpool Lane and Community Enhancements Project. The owner/applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to Eastbound U.S. 50 between Zinfandel Drive and Sunrise Boulevard</p> | B (Caltrans MOU) | CD (E), PW |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|---|---------------------|------------------------|
| 164. | 3A.15-1r | <p><i>Eastbound U.S. 50 between Hazel Avenue and Folsom Boulevard</i> To ensure that Eastbound U.S. 50 operates at an acceptable LOS between Hazel Avenue and Folsom Boulevard, an auxiliary lane shall be constructed. This improvement was recommended in the Traffic Operations Analysis Report for the U.S. 50 Auxiliary Lane Project. This improvement is included in the proposed 50 Corridor Mobility Fee Program. The owner/applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to Eastbound U.S. 50 between Hazel Avenue and Folsom Boulevard</p> | B (Caltrans MOU) | CD (E), PW |
| 165. | 3A.15-1v | <p><i>Westbound U.S. 50 between Hazel Avenue and Sunrise Boulevard</i> To ensure that Westbound U.S. 50 operates at an acceptable LOS between Hazel Avenue and Sunrise Boulevard, an auxiliary lane shall be constructed. This improvement was recommended in the Traffic Operations Analysis Report for the U.S. 50 Auxiliary Lane Project, and included in the proposed Rancho Cordova Parkway interchange project. Improvements to this freeway segment shall be implemented by Caltrans. The owner/applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to Westbound U.S. 50 between Hazel Avenue and Sunrise Boulevard</p> | B (Caltrans MOU) | CD (E), PW |
| 166. | 3A.15-1w | <p><i>U.S. 50 Eastbound/Folsom Boulevard Ramp Merge</i> To ensure that Eastbound U.S. 50 operates at an acceptable LOS at the Folsom Boulevard merge, an auxiliary lane from the Folsom Boulevard merge to the Prairie City Road diverge shall be constructed. This improvement was recommended in the Traffic Operations Analysis Report for the U.S. 50 Auxiliary Lane Project. This improvement is included in the proposed 50 Corridor Mobility Fee Program. The owner/applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to the U.S. 50 Eastbound/Folsom Boulevard Ramp Merge</p> | B (Caltrans MOU) | CD (E), PW |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|---|--------------------------------------|------------------------|
| 167. | 3A.15-1hh | <p><i>U.S. 50 Eastbound/Folsom Boulevard</i> To ensure that Westbound U.S. 50 operates at an acceptable LOS at the Folsom Boulevard Diverge, an auxiliary lane from the Prairie City Road loop ramp merge shall be constructed. Improvements to this freeway segment shall be implemented by Caltrans. This auxiliary lane improvement is included in the proposed 50 Corridor Mobility Fee Program. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by the owner/applicant, to reduce the impacts to the U.S. 50 Eastbound / Folsom Boulevard diverge</p> | B (Caltrans MOU) | CD (E), PW |
| 168. | 3A.15-1ii | <p><i>U.S. 50 Westbound/Hazel Avenue Direct Ramp Merge</i> To ensure that Westbound U.S. 50 operates at an acceptable LOS at the Hazel Avenue direct ramp merge, an auxiliary lane to the Sunrise Boulevard off ramp diverge shall be constructed. This auxiliary lane improvement is included in the proposed 50 Corridor Mobility Fee Program. The owner/applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to the U.S. 50 Westbound/Hazel Avenue direct ramp merge.</p> | B (Caltrans MOU) | CD (E), PW |
| 169. | 3A.15-2b | <p><i>Participate in the City's Transportation System Management Fee Program</i> The owner/applicant for any particular discretionary development application shall pay an appropriate amount into the City's existing Transportation System Management Fee Program to reduce the number of single-occupant automobile travel on area roadways and intersections.</p> | B | CD (E), PW |
| 170. | 3A.15-3 | <p><i>Pay Full Cost of Identified Improvements that Are Not Funded by the City's Fee Program.</i> In accordance with Measure W, the owner/applicant for any particular discretionary development application shall provide fair-share contributions to the City's transportation impact fee program to fully fund improvements only required because of the Specific Plan.</p> | B (Caltrans MOU, PFFP fee, SCTDF) | CD (E), PW |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|---|--------------------|------------------------|
| 171. | 3A.15-4a | Sibley Street/Blue Ravine Road Intersection To ensure that the Sibley Street/Blue Ravine Road intersection operates at a LOS D with less than the Cumulative No Project delay, the northbound approach shall be reconfigured to consist of two left-turn lanes, two through lanes, and one dedicated right-turn lane. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by owner/applicant, to reduce the impacts to the Sibley Street/Blue Ravine Road intersection | B Pay PFFFP fee | CD (E), PW |
| 172. | 3A.15-4c | East Bidwell Street/College Street To ensure that the East Bidwell Street/College Street intersection operates at acceptable LOS C or better, the westbound approach shall be reconfigured to consist of one left-turn lane, one left / through lane, and two dedicated right-turn lanes. The owner/applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by owner/applicant, to reduce the impacts to the East Bidwell Street/College Street intersection | B Pay PFFFP fee | CD (E), PW |
| 173. | 3A.15-4g | Oak Avenue Parkway/Alder Creek Parkway To ensure that the Oak Avenue Parkway/Alder Creek Parkway intersection operates at an acceptable LOS the southbound approach shall be reconfigured to consist of two left-turn lanes, two through lanes, and two right-turn lanes. | B Pay SCTDF | CD (E), PW |
| 174. | 3A.15-1f | Oak Avenue Parkway/Middle Road Intersection To ensure that the Oak Avenue Parkway/Middle Road intersection (as shown in the FPA) operates at an acceptable LOS, control all movements with a stop sign. | B Pay PFFFP fee | CD (E), PW |
| 175. | 3A.15-1j | Hazel Avenue between Madison Avenue and Curragh Downs Drive To ensure that Hazel Avenue operates at an acceptable LOS between Curragh Downs Drive and Gold Country Boulevard, Hazel Avenue must be widened to six lanes. This improvement is part of the County adopted Hazel Avenue widening project. | B Pay SCTDF | CD (E), PW |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|--|----------------|------------------------|
| 176. | 3A.15-11: | <p><i>White Rock Road/Windfield Way Intersection</i></p> <p>To ensure that the White Rock Road/Windfield Way intersection operates at an acceptable LOS, the intersection must be signalized and separate northbound left and right turn lanes must be striped. The applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to the White Rock Road/Windfield Way intersection.</p> | B Pay SCTDF | PW |
| 177. | 3A.15-4i | <p><i>Grant Line Road/White Rock Road Intersection</i></p> <p>To ensure that the Grant Line Road/White Rock Road intersection operates at an acceptable LOS E or better this intersection should be replaced by some type of grade separated intersection or interchange.</p> <p>Improvements to this intersection are identified in the Sacramento County's Proposed General Plan. Implementation of these improvements would assist in reducing traffic impacts on this intersection by providing acceptable operation. Intersection improvements must be implemented by Sacramento County. The applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to the Grant Line Road/White Rock Road intersection.</p> | B Pay SCTDF | PW |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
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 AND INCLUSIONARY HOUSING AGREEMENT**

| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|---|----------------|---|
| 178. | 3A.15-4j | <p>Grant Line Road between White Rock Road and Kiefer Boulevard</p> <p>To improve operation on Grant Line Road between White Rock Road and Kiefer Boulevard, this roadway segment must be widened to six lanes. This improvement is proposed in the Sacramento County and the City of Rancho Cordova General Plans; however, it is not in the 2035 MTP. Improvements to this roadway segment must be implemented by Sacramento County and the City of Rancho Cordova.</p> <p>The applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to Grant Line Road between White Rock Road and Kiefer Boulevard.</p> <p>The identified improvement would more than offset the impacts specifically related to the Folsom South of U.S. 50 project on this roadway segment.</p> | B Pay SCTDF | Sacramento County City of Rancho Cordova |
| 179. | 3A.15-4k | <p>Grant Line Road between Kiefer Boulevard and Jackson Highway</p> <p>To improve operation on Grant Line Road between Kiefer Boulevard Jackson Highway, this roadway segment could be widened to six lanes. This improvement is proposed in the Sacramento County and the City of Rancho Cordova General Plans; however, it is not in the 2035 MTP. Improvements to this roadway segment must be implemented by Sacramento County and the City of Rancho Cordova.</p> <p>The applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to Grant Line Road between Kiefer Boulevard and Jackson Highway.</p> <p>The identified improvement would more than offset the impacts specifically related to the Folsom South of U.S. 50 project on this roadway segment.</p> | B Pay SCTDF | Sacramento County City of Rancho Cordova |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|--|---------------------------|--|
| 180. | 3A.15-4l | <p><i>Hazel Avenue between Curragh Downs Drive and U.S. 50 Westbound Ramps</i></p> <p>The applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements on Hazel Avenue, based on a program established by that agency to reduce the impacts to Hazel Avenue between Curragh Downs Drive and U.S. 50 Westbound Ramps.</p> | <p>B</p> <p>Pay SCTDF</p> | <p>Sacramento County City of Rancho Cordova</p> |
| 181. | 3A.15-4m | <p><i>White Rock Road between Grant Line Road and Prairie City Road</i></p> <p>To improve operation on White Rock Road between Grant Line Road and Prairie City Road, this roadway segment shall be widened to six lanes. This improvement is included in the 2035 MTP but is not included in the Sacramento County General Plan. Improvements to this roadway segment must be implemented by Sacramento County.</p> <p>The identified improvement would more than offset the impacts specifically related to the Folsom South of U.S. 50 project on this roadway segment. However, because of other development in the region that would substantially increase traffic levels, this roadway segment would continue to operate at an unacceptable LOS F even with the capacity improvements identified to mitigate Folsom Plan Area impacts.</p> <p>The applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to White Rock Road between Grant Line Road and Prairie City Road.</p> | <p>B</p> <p>Pay SCTDF</p> | <p>Sacramento County</p> |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|---|----------------|------------------------|
| 182. | 3A.15-4n | <p><i>White Rock Road between Empire Ranch Road and Carson Crossing Road</i></p> <p>To improve operation on White Rock Road between Empire Ranch Road and Carson Crossing Road, this roadway segment shall be widened to six lanes. Improvements to this roadway segment shall be implemented by Sacramento County.</p> <p>The applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to White Rock Road between Empire Ranch Road and Carson Crossing Road.</p> | B Pay SCTDF | Sacramento County |
| 183. | 3A.15-4o | <p><i>White Rock Road/Carson Crossing Road Intersection</i></p> <p>To ensure that the White Rock Road/Carson Crossing Road intersection operates at an acceptable LOS, the eastbound right turn lane shall be converted into a separate free right turn lane, or double right. Improvements to this intersection must be implemented by El Dorado County. The applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to the White Rock Road/Carson Crossing Road Intersection</p> | B Pay SCTDF | CD (E), PW |
| 184. | 3A.15-4p | <p><i>Hazel Avenue/U.S. 50 Westbound Ramps Intersection</i></p> <p>To ensure that the Hazel Avenue/U.S. 50 westbound ramps intersection operates at an acceptable LOS, the westbound approach shall be reconfigured to consist of one dedicated left turn lane, one shared left- through lane and three dedicated right-turn lanes. Improvements to this intersection shall be implemented by Caltrans and Sacramento County. The applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to the Hazel Avenue/U.S. 50 Westbound Ramps Intersection.</p> | B Pay SCTDF | CD (E), PW |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
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| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|--------------------|--|----------------|------------------------|
| 185, | 3A.15-4q | <p><i>Eastbound US 50 between Zinfandel Drive and Sunrise Boulevard</i></p> <p>To ensure that Eastbound US 50 operates at an acceptable LOS between Zinfandel Drive and Sunrise Boulevard, an additional eastbound lane could be constructed. This improvement is not consistent with the Concept Facility in Caltrans State Route 50 Corridor System Management Plan; therefore, it is not likely to be implemented by Caltrans by 2030.</p> <p>Construction of the Capitol South East Connector, including widening White Rock Road and Grant Line Road to six lanes with limited access, could divert some traffic from U.S. 50 and partially mitigate the project's impact. The applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to Eastbound U.S. 50 between Zinfandel Drive and Sunrise Boulevard.</p> | B Pay SCTDF | CD (E), PW |
| 186. | 3A.15-4r | <p><i>Eastbound US 50 between Rancho Cordova Parkway and Hazel Avenue</i></p> <p>To ensure that Eastbound US 50 operates at an acceptable LOS between Rancho Cordova Parkway and Hazel Avenue, an additional eastbound lane could be constructed. This improvement is not consistent with the Concept Facility in Caltrans State Route 50 Corridor System Management Plan; therefore, it is not likely to be implemented by Caltrans by 2030.</p> <p>Construction of the Capitol South East Connector, including widening White Rock Road and Grant Line Road to six lanes with limited access, could divert some traffic off of U.S. 50 and partially mitigate the project's impact. The applicant shall pay its proportionate share of funding of improvements to the agency responsible for improvements, based on a program established by that agency to reduce the impacts to Eastbound U.S. 50 between Rancho Cordova Parkway and Hazel Avenue.</p> | B Pay SCTDF | CD (E), PW |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
 AND INCLUSIONARY HOUSING AGREEMENT**

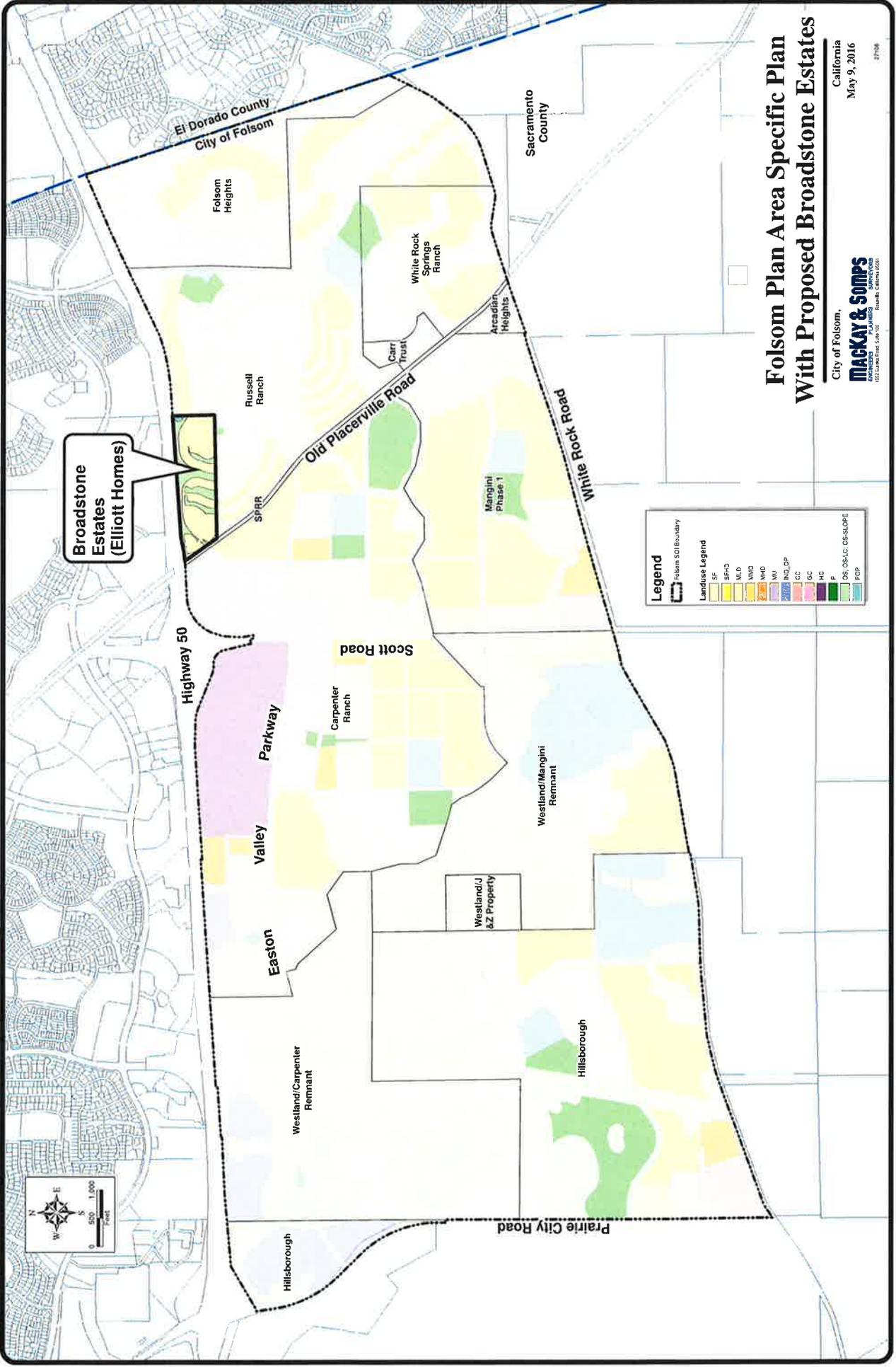
| | Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|------|---------------------------|--|----------------------|-------------------------------|
| 187. | 3A.15-4s | <p><i>Eastbound US 50 between Folsom Boulevard and Prairie City Road</i></p> <p>To ensure that Eastbound US 50 operates at an acceptable LOS between Folsom Boulevard and Prairie City Road, the eastbound auxiliary lane should be converted to a mixed flow lane that extends to and drops at the Oak Avenue Parkway off ramp (see mitigation measure 3A.15-4t). Improvements to this freeway segment must be implemented by Caltrans. This improvement is not consistent with the Concept Facility in Caltrans State Route 50 Corridor System Management Plan; therefore, it is not likely to be implemented by Caltrans by 2030.</p> <p>Construction of the Capitol South East Connector, including widening White Rock Road and Grant Line Road to six lanes with limited access, could divert some traffic off of U.S. 50 and partially mitigate the project's impact.</p> <p>The applicant shall pay its proportionate share of funding of improvements, as may be determined by a nexus study or other appropriate and reliable mechanism paid for by applicant, to reduce the impacts to Eastbound U.S. 50 between Folsom Boulevard and Prairie City Road</p> | B Pay SCTDF | CD (E), PW |
| 188. | | <p><i>Mechanical Ventilation</i></p> <p>Prior to the issuance of Building Permits, the owner/applicant shall show on the plans that mechanical ventilation shall be installed in all residential uses to allow residents to keep doors and windows closed, as desired, for acoustical isolation. The building plans shall be subject to review and approval by the City Community Development Department.</p> | B | CD (B) (P) |

**CONDITIONS OF APPROVAL FOR THE BROADSTONE ESTATES SUBDIVISION PROJECT (PN 15-308)
 EAST OF PLACERVILLE ROAD, SOUTH OF HIGHWAY 50, VESTING SMALL
 LOT TENTATIVE SUBDIVISION MAP, BROADSTONE ESTATES DESIGN GUIDELINES,
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| Mitigation Measure | Condition/Mitigation Measure | When Required | Responsible Department |
|--------------------|---|---------------|------------------------|
| 189. | <p align="center">ARCHITECTURE/SITE DESIGN REQUIREMENTS</p> <p><i>Landscaping Plan</i> Owner/applicant shall submit a landscape plan for all areas (by phase or subdivision) of the project where owner/applicant proposes to install landscaping on residential lots. The landscape plan shall take into account the then existing state or local rules and regulations related to landscape water usage and water wise landscape principles. The landscape plans shall be submitted and approved by the Community Development Director prior to the issuance of a building permit in the phase or subdivision.</p> <p>Owner/applicant shall comply with any state or local rules and regulations relating to landscape water usage and landscaping requirements necessitated to mitigate for drought conditions</p> | B | CD (P) (E) |

ATTACHMENT NO. 1

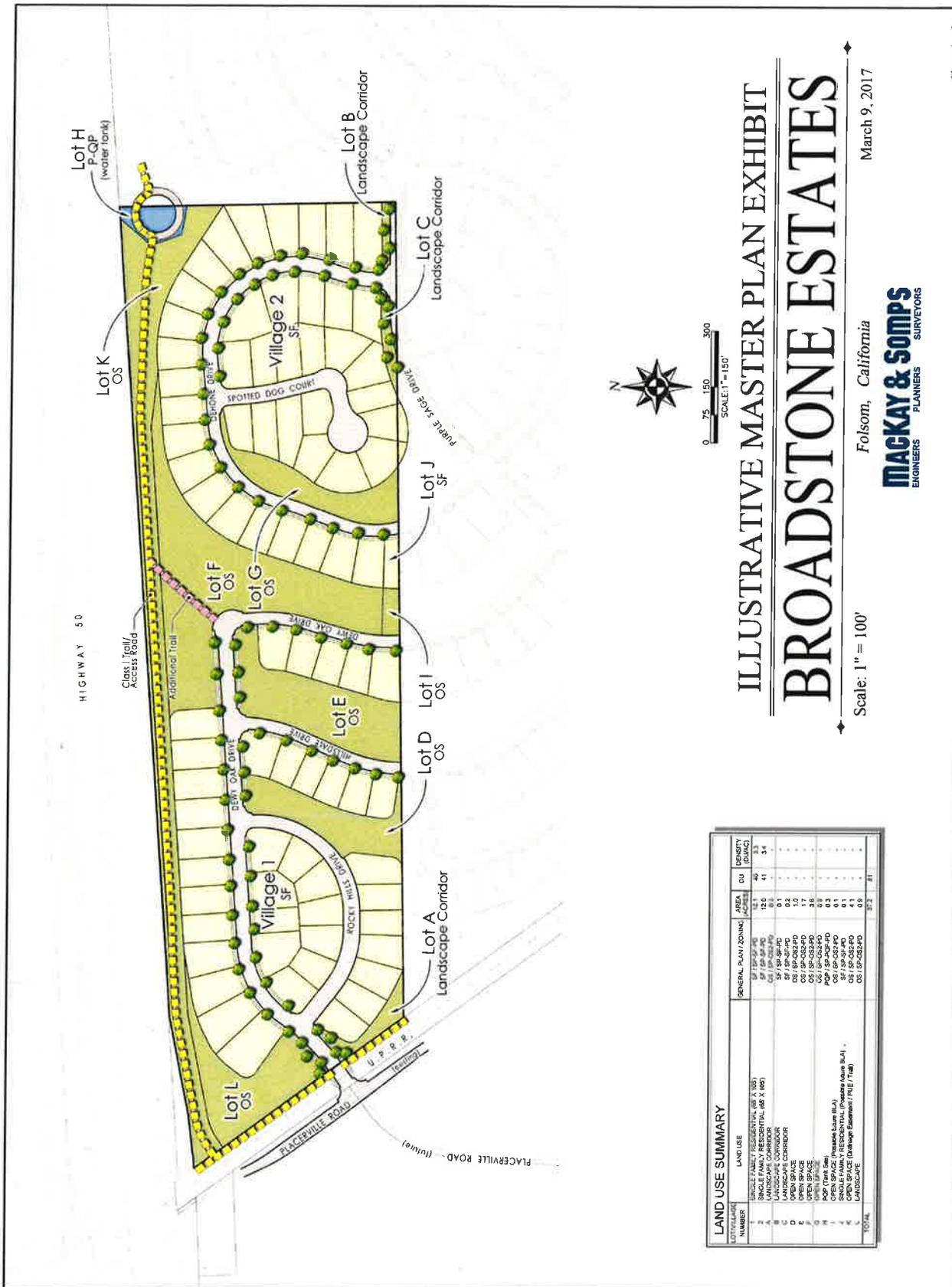
Location Map and Illustrative Master Plan Exhibit



Folsom Plan Area Specific Plan With Proposed Broadstone Estates

California
May 9, 2016

City of Folsom,
MACKAY & SOMPS
1021 Garden Road, Suite 105
Folsom, California 95630
27798



LAND USE SUMMARY

| LOT/VILLAGE NUMBER | LAND USE | GENERAL PLANT/ZONING | AREA | DU | DENSITY |
|--------------------|---|----------------------|------|----|---------|
| A | SINGLE FAMILY RESIDENTIAL (65 X 105) | OS / SF-SP-PO | 18.1 | 40 | 3.4 |
| B | LANDSCAPE CORRIDOR | OS / SF-OS-PO | 10.0 | 41 | 3.4 |
| C | LANDSCAPE CORRIDOR | OS / SF-OS-PO | 10.0 | 41 | 3.4 |
| D | LANDSCAPE CORRIDOR | OS / SF-OS-PO | 0.1 | 41 | 3.4 |
| E | OPEN SPACE | OS / SF-OS-PO | 0.4 | 41 | 3.4 |
| F | OPEN SPACE | OS / SF-OS-PO | 1.7 | 41 | 3.4 |
| G | OPEN SPACE | OS / SF-OS-PO | 3.6 | 41 | 3.4 |
| H | POP (Trail Site) | POP / SF-OS-PO | 0.3 | 41 | 3.4 |
| I | POP (Trail Site) | POP / SF-OS-PO | 0.1 | 41 | 3.4 |
| J | SINGLE FAMILY RESIDENTIAL (POSSIBLE HOME BUA) | OS / SF-OS-PO | 4.1 | 41 | 3.4 |
| K | OPEN SPACE (Drainage Easement / FIE / Trail) | OS / SF-OS-PO | 0.9 | 41 | 3.4 |
| L | LANDSCAPE | OS / SF-OS-PO | 0.1 | 41 | 3.4 |
| TOTAL | | | 57.2 | 21 | |

ILLUSTRATIVE MASTER PLAN EXHIBIT

BROADSTONE ESTATES

Scale: 1" = 100' March 9, 2017

Folsom, California
MACKAY & SOMPS
 ENGINEERS PLANNERS SURVEYORS

ATTACHMENT NO. 2

**Minor Administrative Modification
Dated November 3, 2016**

BROADSTONE ESTATES DEVELOPMENT PERMIT APPLICATION

PLANNING ENTITLEMENTS / APPROVALS REQUESTED WITH THIS APPLICATION

The Planning Entitlements / Approvals requested in this application for the **BROADSTONE ESTATES** property include a **Minor Administrative Modification & Small Lot Vesting Tentative Subdivision Map** consistent with the goals, policies and intent of the Folsom Plan Area Specific Plan, approved 2011.

Proposed Minor Administrative Modification

The approved **BROADSTONE ESTATES** land use plan includes Single Family Residential (SF) and Open Space (OS) and major roadways as shown in the FPASP 2011 and as amended in June 2016. **The proposed minor amendments to the Plan include:**

- **Refinements to OS boundaries to preserve and protect open space,** to provide noise attenuation from HWY 50, and to accommodate class 1 bike trails in the Plan.
- **Measure W open space acreage remains the same.**



SPA (May 9, 2016)



Proposed

| LAND USE SUMMARY | | | |
|----------------------|--------------------|----------------|----------|
| Land Use Designation | SPA (5-9-16) Acres | Proposed Acres | Delta |
| SF | 24.6± | 24.3± | -0.3 |
| OS (Landscape) | 0.9± | 1.2± | 0.3 |
| OS (Measure W) | 11.4± | 11.4± | 0.0 |
| PGP | 0.3± | 0.3± | 0.0 |
| TOTAL | 37.2± | 37.2± | 0 |

ADMINISTRATIVE MODIFICATION
BROADSTONE ESTATES
Folsom, California
November 3, 2016
Scale: 1" = 400'
Mackay & Somps
ENGINEERS PLANNERS ARCHITECTS

BROADSTONE ESTATES DEVELOPMENT PERMIT APPLICATION

Proposed Minor Administrative Amendment - Compliance

The proposed entitlements seek a Minor Administrative Amendment (MAM) to the FPASP 2011 land use plan, as amended in June 2016, for the following minor land use refinements discussed above, as anticipated and permitted in the FPASP 2011, Chapter 13 Implementation, Section 13.3.1 Minor Administrative Amendment.

The FPASP anticipates that situations may arise necessitating changes to the Specific Plan Land Use diagram and text and outlines the basis for Minor Administrative Modifications and Specific Plan Amendments. Administrative Modifications do not have a significant impact on the Plan, if they are deemed consistent with the objectives and policies of the FPASP, and can be approved administratively by the Community Development Director.

Per the FPASP 2011, "Minor Administrative Amendments (MAM) to the FPASP that are consistent with and do not substantially change its overall intent, such as minor amendments to the land use locations and parcel boundaries shown in Figure 4.1 and 4.3 and the land use acreages shown in Table 4.1 may be approved administratively by the Community Development Department, provided the following criteria (below) are met."

Minor Administrative Amendment (MAM) compliance criteria are listed as follows. *(Justification for compliance FPASP Minor Administrative Modification criteria are shown are shown in blue italics.)*

- **The proposed modification is within the Plan Area.** *(The proposed modifications are within the FPASP Plan Area.)*
- **The modification does not reduce the size of the proposed Town Center.** *(The proposed Town Center is not a part of this project.)*
- **The modification maintains compliance with City Charter Article 7.08, previously known as Measure W.** *(The proposed modifications comply with Measure W and exceeds the amount of open space allocated to the property per the approved FPASP 2011 (as amended in the Broadstone Estates GPA/SPA June 2016).)*
- **The general land use pattern remains consistent with the intent and spirit of the FPASP.** *(The general land use pattern remains consistent with the intent and spirit of the FPASP.)*
- **The proposed changes do not substantially alter the backbone infrastructure network.** *(The proposed changes do not alter the backbone infrastructure network.)*
- **The proposed modification offers equal or superior improvements to development capacity or standards.** *(The proposed modifications do not alter development capacity or standards.)*
- **The proposed modification does not increase environmental impacts beyond those identified in the EIR/EIS.** *(The proposed modifications do not increase environmental impacts beyond those identified in the EIR/EIS.)*
- **Relocated park or school parcels continue to meet the standards for the type of park or school proposed.** *(There is no change to park or school locations.)*
- **Relocated park or school parcels remain within walking distance of the residents they serve.** *(There is no change to park or school locations.)*

ATTACHMENT NO. 3

**Small Lot Vesting Tentative Subdivision Map
Dated 3-9-17**



TENTATIVE MAP INFORMATION

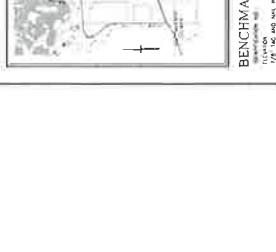
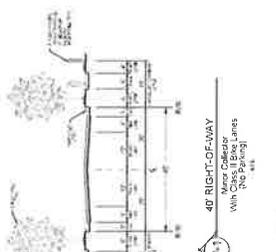
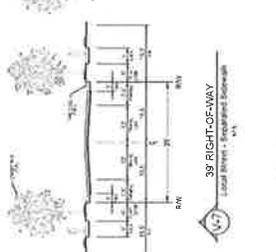
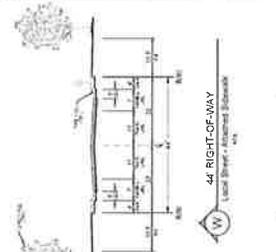
DATE: 10/10/15
 COUNTY: LOS ANGELES
 CITY: BELLFLOWER
 PROJECT: BROADSTONE ESTATES
 PREPARED BY: MACKAY & SOMPS, INC.
 1333 S. GARDEN ST., SUITE 100
 BELLFLOWER, CA 91706
 TEL: (714) 861-1111
 FAX: (714) 861-1112

OWNER: MACKAY & SOMPS, INC.
 1333 S. GARDEN ST., SUITE 100
 BELLFLOWER, CA 91706
 TEL: (714) 861-1111
 FAX: (714) 861-1112

APPROVED: 10/10/15
 APPROVED: 10/10/15
 APPROVED: 10/10/15

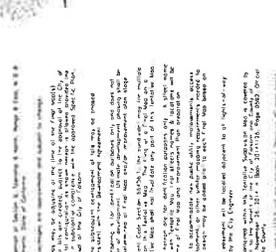
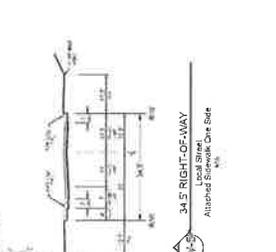
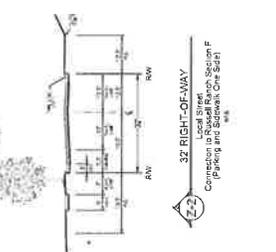
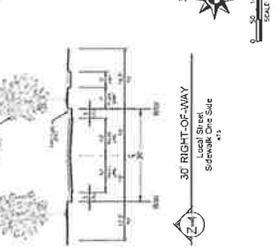
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NOTES

1. All dimensions are in feet and inches.
2. All dimensions are to the centerline of the road.
3. All dimensions are to the centerline of the road.
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10. All dimensions are to the centerline of the road.



LAND USE SUMMARY

| LAND USE | AREA (SQ. FT.) | PERCENT |
|----------------------------|----------------|---------|
| RESIDENTIAL SINGLE-FAMILY | 1,111,111 | 100.00 |
| RESIDENTIAL MEDIUM-DENSITY | 0 | 0.00 |
| RESIDENTIAL HIGH-DENSITY | 0 | 0.00 |
| COMMERCIAL | 0 | 0.00 |
| INDUSTRIAL | 0 | 0.00 |
| OFFICE | 0 | 0.00 |
| RETAIL | 0 | 0.00 |
| RESTAURANT | 0 | 0.00 |
| BAR | 0 | 0.00 |
| CASINO | 0 | 0.00 |
| AMUSEMENT | 0 | 0.00 |
| RECREATION | 0 | 0.00 |
| UNDEVELOPED | 0 | 0.00 |
| TOTAL | 1,111,111 | 100.00 |

VICINITY MAP

BENCHMARK

LOCATION: 1111 S. GARDEN ST.
 DATUM: NAD 83
 ELEVATION: 111.11 FEET

NOTES

1. All dimensions are in feet and inches.
2. All dimensions are to the centerline of the road.
3. All dimensions are to the centerline of the road.
4. All dimensions are to the centerline of the road.
5. All dimensions are to the centerline of the road.
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LAND USE SUMMARY

| LAND USE | AREA (SQ. FT.) | PERCENT |
|----------------------------|----------------|---------|
| RESIDENTIAL SINGLE-FAMILY | 1,111,111 | 100.00 |
| RESIDENTIAL MEDIUM-DENSITY | 0 | 0.00 |
| RESIDENTIAL HIGH-DENSITY | 0 | 0.00 |
| COMMERCIAL | 0 | 0.00 |
| INDUSTRIAL | 0 | 0.00 |
| OFFICE | 0 | 0.00 |
| RETAIL | 0 | 0.00 |
| RESTAURANT | 0 | 0.00 |
| BAR | 0 | 0.00 |
| CASINO | 0 | 0.00 |
| AMUSEMENT | 0 | 0.00 |
| RECREATION | 0 | 0.00 |
| UNDEVELOPED | 0 | 0.00 |
| TOTAL | 1,111,111 | 100.00 |

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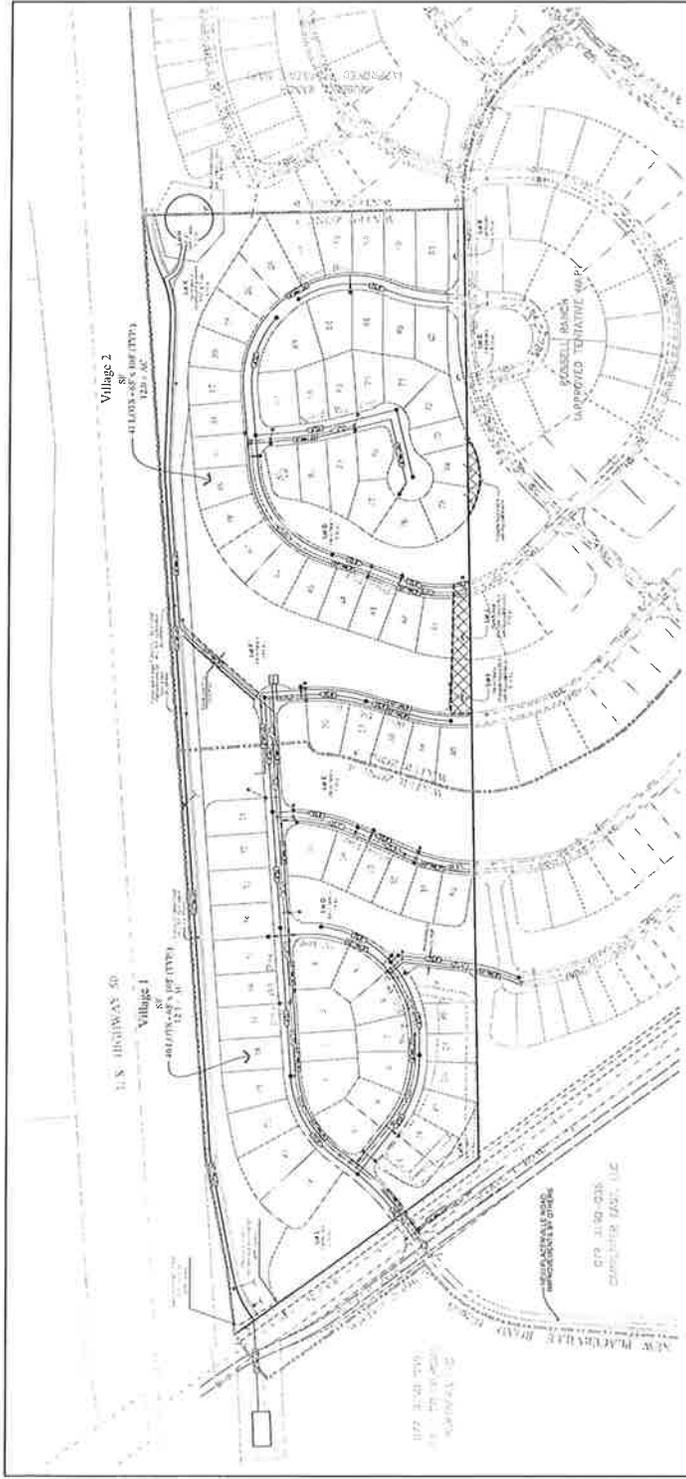
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8. All dimensions are to the centerline of the road.
9. All dimensions are to the centerline of the road.
10. All dimensions are to the centerline of the road.

ATTACHMENT NO. 4

Preliminary Grading and Drainage Plan Dated 3-9-17

ATTACHMENT NO. 5

Preliminary Utility Plan Dated 3-9-17



LEGEND

| | | | |
|--|--------------------------|--|--------------------------|
| | PROPOSED SEWER LINE | | EXISTING SEWER LINE |
| | PROPOSED WATER LINE | | EXISTING WATER LINE |
| | PROPOSED GAS LINE | | EXISTING GAS LINE |
| | PROPOSED ELECTRICAL LINE | | EXISTING ELECTRICAL LINE |
| | PROPOSED STORM DRAIN | | EXISTING STORM DRAIN |
| | PROPOSED FIRE LINE | | EXISTING FIRE LINE |
| | PROPOSED VALVE | | EXISTING VALVE |
| | PROPOSED MANHOLE | | EXISTING MANHOLE |
| | PROPOSED METER | | EXISTING METER |
| | PROPOSED TRANSFORMER | | EXISTING TRANSFORMER |
| | PROPOSED POLE | | EXISTING POLE |
| | PROPOSED STREET LIGHT | | EXISTING STREET LIGHT |
| | PROPOSED SIGN | | EXISTING SIGN |
| | PROPOSED FENCE | | EXISTING FENCE |
| | PROPOSED WALL | | EXISTING WALL |
| | PROPOSED GATE | | EXISTING GATE |
| | PROPOSED DRIVEWAY | | EXISTING DRIVEWAY |
| | PROPOSED PARKING | | EXISTING PARKING |
| | PROPOSED SIDEWALK | | EXISTING SIDEWALK |
| | PROPOSED PATH | | EXISTING PATH |
| | PROPOSED BOUNDARY | | EXISTING BOUNDARY |
| | PROPOSED EASEMENT | | EXISTING EASEMENT |
| | PROPOSED RIGHT-OF-WAY | | EXISTING RIGHT-OF-WAY |



Scale: 1" = 100'

PRELIMINARY UTILITY PLAN

BROADSTONE ESTATES

October 10, 2013
 Revised: 10/10/13
 10/10/13
 10/10/13

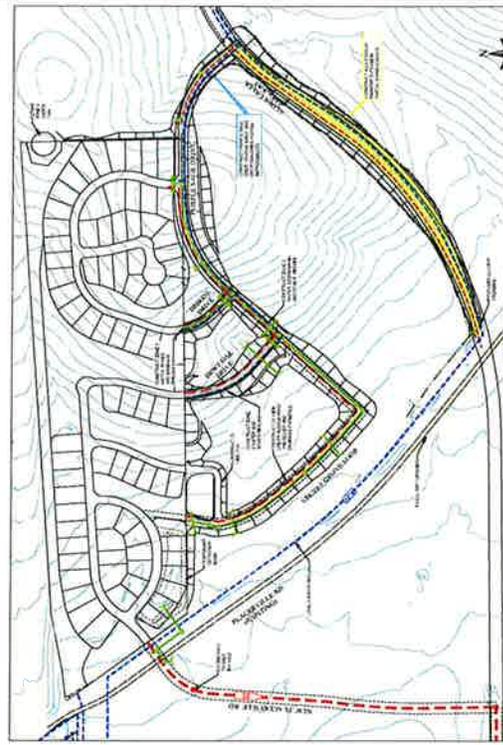
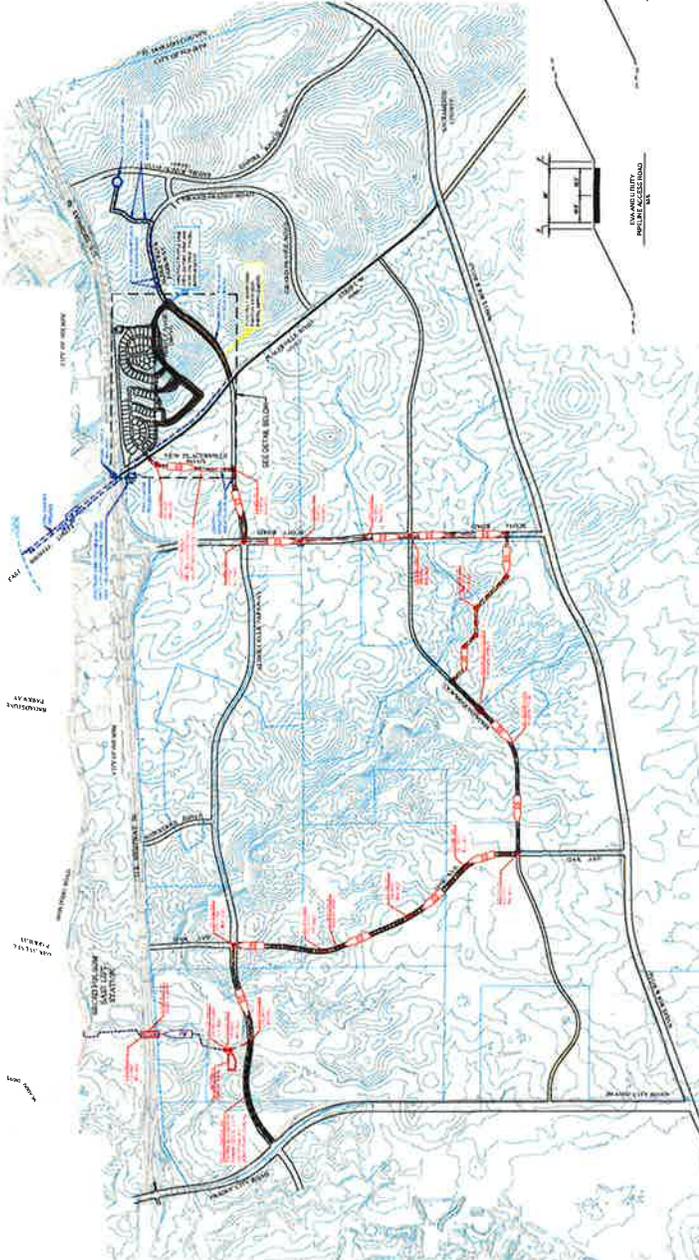
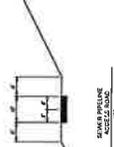
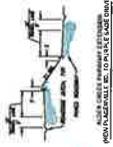
Folsom, California
MACKAY & SOMPS
 CIVIL ENGINEERS

Sheet 1 of 4

ATTACHMENT NO. 6

Preliminary Offsite Improvements Plan Dated 3-9-17

NOTE:
 ALL PLACERVILLE DRIVE, OAK CREEK PARKWAY, AND NEW PLACERVILLE ROAD IMPROVEMENTS ARE SHOWN IN RED.



PROJECT SITE DETAIL
 Scale: 1" = 20'

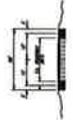
OFF-SITE IMPROVEMENTS

BROADSTONE ESTATES

October 10, 2015
 Project No. 15-001
 Revision No. 01
 Drawing No. 15-001-01

Folsom, California
BLACK & VEATCH
 ENGINEERS

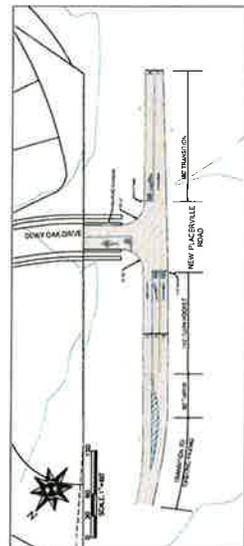
Sheet 4 of 4



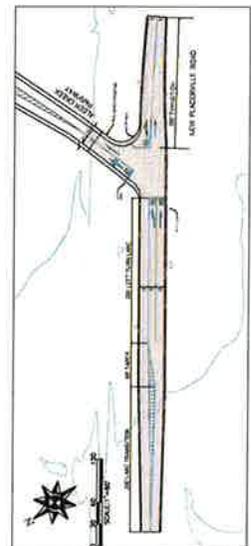
NEW PLACERVILLE ROAD IMPROVEMENTS
 Scale: 1" = 20'

- ABBREVIATIONS:
- PROPOSED IMPROVEMENTS
 - EXISTING IMPROVEMENTS
 - EXISTING ROAD
 - EXISTING UTILITY
 - EXISTING DRAINAGE
 - EXISTING EROSION CONTROL
 - EXISTING FENCE
 - EXISTING SIGN
 - EXISTING LIGHTING
 - EXISTING LANDSCAPE
 - EXISTING TREES
 - EXISTING BUSHES
 - EXISTING GRASS
 - EXISTING SOIL
 - EXISTING ROCK
 - EXISTING CONCRETE
 - EXISTING ASPHALT
 - EXISTING GRAVEL
 - EXISTING SAND
 - EXISTING SILT
 - EXISTING CLAY
 - EXISTING LIMESTONE
 - EXISTING GYPSUM
 - EXISTING SALTS
 - EXISTING ACIDS
 - EXISTING METALS
 - EXISTING PESTICIDES
 - EXISTING HERBICIDES
 - EXISTING FERTILIZERS
 - EXISTING FUELS
 - EXISTING OILS
 - EXISTING GREASES
 - EXISTING SOLIDS
 - EXISTING LIQUIDS
 - EXISTING GASES
 - EXISTING PARTICLES
 - EXISTING DUSTS
 - EXISTING FIBERS
 - EXISTING METALS
 - EXISTING NON-METALS
 - EXISTING ORGANICS
 - EXISTING INORGANICS
 - EXISTING TOXICS
 - EXISTING HAZARDOUS
 - EXISTING RADIOACTIVE
 - EXISTING NUCLEAR
 - EXISTING BIOLOGICALS
 - EXISTING CHEMICALS
 - EXISTING PHYSICALS
 - EXISTING MECHANICALS
 - EXISTING ELECTRICALS
 - EXISTING THERMALS
 - EXISTING ACOUSTICALS
 - EXISTING OPTICALS
 - EXISTING MAGNETICALS
 - EXISTING GRAVITATIONALS
 - EXISTING GEOMETRICALS
 - EXISTING STATISTICALS
 - EXISTING MATHEMATICALS
 - EXISTING LOGICALS
 - EXISTING PHILOSOPHICALS
 - EXISTING ARTS
 - EXISTING LETTERS
 - EXISTING LANGUAGES
 - EXISTING CULTURES
 - EXISTING SOCIETIES
 - EXISTING COMMUNITIES
 - EXISTING NATIONS
 - EXISTING WORLDS

- LEGEND:
- PROPOSED IMPROVEMENTS
 - EXISTING IMPROVEMENTS
 - EXISTING ROAD
 - EXISTING UTILITY
 - EXISTING DRAINAGE
 - EXISTING EROSION CONTROL
 - EXISTING FENCE
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 - EXISTING GRAVITATIONALS
 - EXISTING GEOMETRICALS
 - EXISTING STATISTICALS
 - EXISTING MATHEMATICALS
 - EXISTING LOGICALS
 - EXISTING PHILOSOPHICALS
 - EXISTING ARTS
 - EXISTING LETTERS
 - EXISTING LANGUAGES
 - EXISTING CULTURES
 - EXISTING SOCIETIES
 - EXISTING NATIONS
 - EXISTING WORLDS



PROPOSED DEWY OAK DRIVE / NEW PLACERVILLE ROAD INTERSECTION DESIGN
 Scale: 1" = 20'



PROPOSED ALDER CREEK PARKWAY / NEW PLACERVILLE ROAD INTERSECTION DESIGN
 Scale: 1" = 20'

ATTACHMENT NO. 7

Inclusionary Housing Plan

340 Palladio Parkway, Suite 521
Folsom, CA 95630-8775
(916) 984-1300 FAX (916) 984-1322

Elliott Homes

A Tradition of Quality since 1914

October 9, 2015

Mr. Scott A. Johnson, AICP
Planning Manager
Community Development Department
City of Folsom
50 Natoma Street
Folsom, California 95630

Re: Broadstone Estates Inclusionary Housing Plan

Dear Mr. Johnson:

This letter is to formally notify the City of Folsom that Elliott Homes, Inc. intends to pay an affordable housing in-lieu fee in accordance with FMC Section 17.104.060(E) for compliance with the Inclusionary Housing Plan requirement on its Broadstone Estates development application permit. Elliott Homes, Inc. intends to pay the in-lieu fee on a permit basis as building permits are issued.

Please contact me if you have further questions.

Very truly yours,

ELLIOTT HOMES, INC.

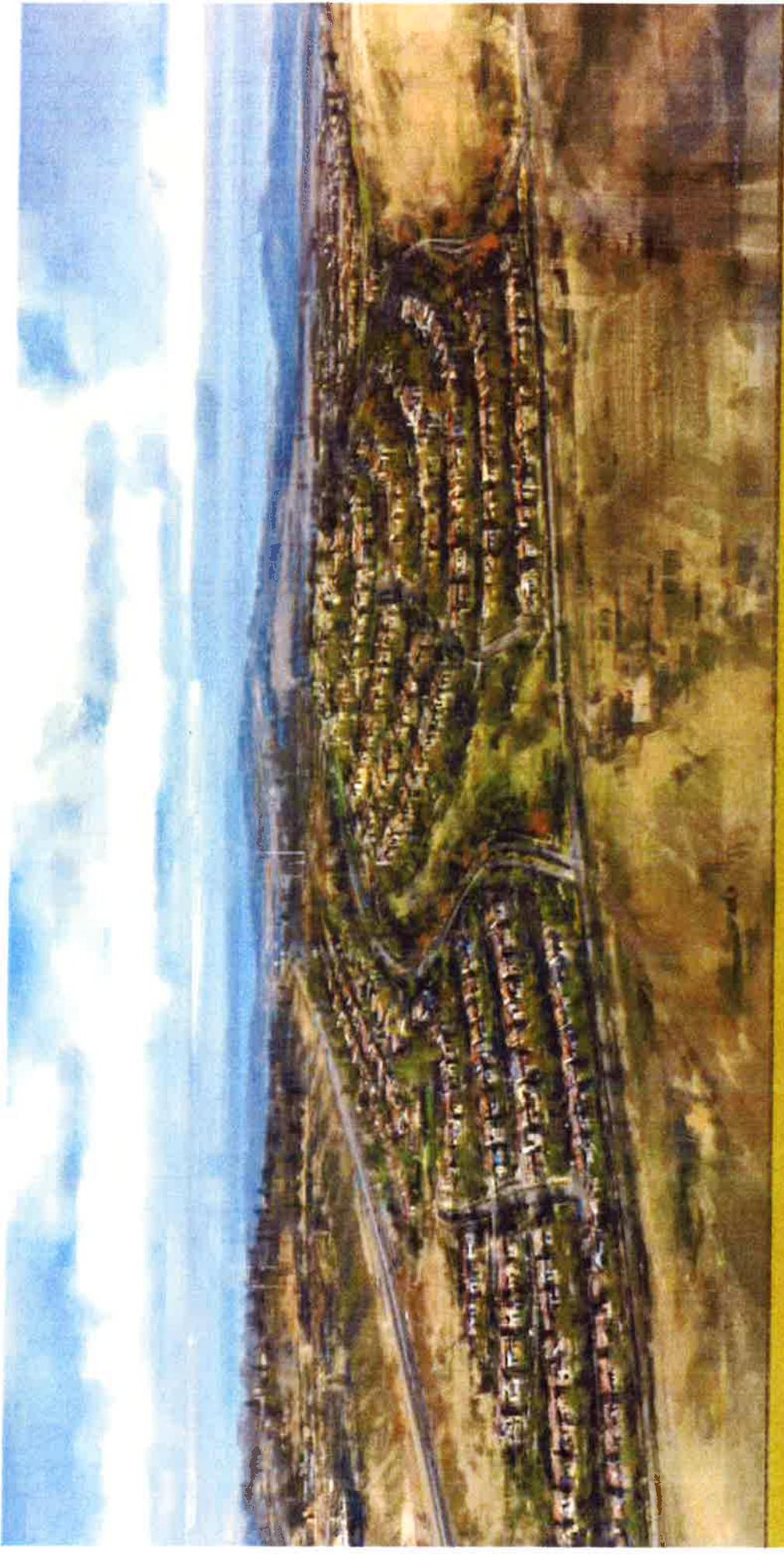


Price Walker
DIRECTOR, LAND ACQUISITION AND DEVELOPMENT

:tmg

cc: Harry C. Elliott, III, President

ATTACHMENT NO. 8
Broadstone Estates Design Guidelines



RUSSELL RANCH

AND BROADSTONE ESTATES AT RUSSELL RANCH

PLANNED DEVELOPMENT DESIGN GUIDELINES

RUSSELL RANCH

AND BROADSTONE ESTATES AT RUSSELL RANCH

PLANNED DEVELOPMENT DESIGN GUIDELINES

DRAFT

JUNE 2016



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CHAPTER ONE: INTRODUCTION

"A city is not an accident but the result of coherent visions and aims."

-Leon Krier, The Architecture of Community

1.1 HISTORY

The Russell name in Folsom dates back to just after the Civil War, when a Union Cavalry General named D.A. Russell, came to the region from Illinois to find opportunity. General Russell established Folsom as his home and started the family that would become an area legacy. Upon his death, General D.A. Russell was buried at what is now Folsom Lake, being moved to Morman Island prior to the lake being filled. General Russell's sons, D.A. and Jack participated in what would eventually become known as rodeo, riding bucking horses and taking bets (a foreshadowing of what would become a family - and Folsom - legacy). Through the years, D.A. and Jack became successful businessmen and continued to prosper in the area. D.A.'s son Melvin became a significant cattle rancher, developing what was known as the Home Ranch, off of Scott Road and eventually buying up the land all the way north to Highway 50. Melvin's son, Dan H. Russell, continued the legacy and eventually expanded what became known as the Russell Ranch to be one of the largest cattle operations in the country. Dan H. Russell further contributed to local Folsom history by entering the rodeo business in the 1960's and designing the Dan Russell Arena, which was considered to be one of the best in the nation and propelled the city to be known as the Rodeo Cowboy Capital of the Western States in 1976.

Today, Russell Ranch reflects its history as grazing land through minimal natural vegetation, presenting a prime opportunity to introduce a new neighborhood with a localized landscape palette that respects the natural terrain and topography. The rolling hills of Russell Ranch present breath-

taking views of the Sacramento valley and city lights, and will become a trademark of the new neighborhood.

1.2 LOCATION AND SETTING

Russell Ranch and Broadstone Estates are located in the City of Folsom, approximately 25 miles east of Sacramento in the foothills of the Sierra Nevada Mountains. Used through the years as cattle grazing pastures, the land features rolling topography and minimal native vegetation. The site is bordered on the west by Placerville Road and the Sacramento-Placerville Transportation Corridor (old Southern Pacific railroad right-of-way) to the north

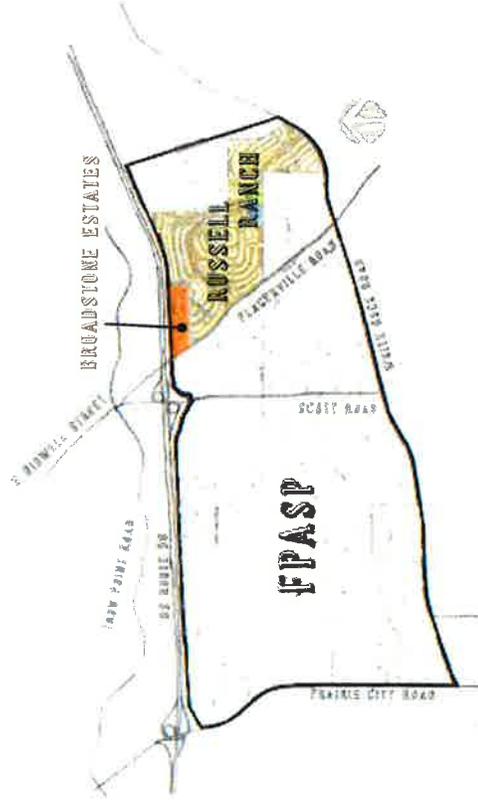


Figure 1.1: Vicinity Map

by US Highway 50, to the south by White Rock Road, and to the east by a parcel within the City of Folsom, with the Sacramento County/ El Dorado County line beyond. Adjacent land to the south across White Rock Road is within Sacramento County outside of the Folsom Plan Area Specific Plan (FPASP or Plan Area).

As part of the FPASP, Russell Ranch will be part of a holistic, interconnected community featuring a network of both on-street and off-street bicycle and pedestrian connections. The Plan Area will also feature residential neighborhoods with a variety of densities to appeal to a broad diversity of residents, community-serving retail, services, a town center, office and industrial uses, schools, parks, and significant preserved open space. All of these components work together to create an integrated community intended to respect and complement the City of Folsom's commitment to a high quality of life for its residents.

The FPASP zoning for the approximately ±437 acre site is Single Family (SP-SF-PD), Single Family High Density (SP-SF-HD-PD), Multi-Family Low Density (SP-MLD-PD), Open Space (SP-OS-PD), Park (SP-P-PD), and Public-Quasi Public (SP-P-QP-PD). The neighborhood will include residential home sites, a gathering Recreation Center, and an open space network of walking trails and a neighborhood park.

1.3 PURPOSE

The purpose of this document is to work in concert with the Planned Development Zoning Ordinance, consistent with Chapter 17.38 PLANNED DEVELOPMENT DISTRICT of Title 17 of the City of Folsom Municipal Code and Chapter 17.06 DESIGN REVIEW, also of Title 17 of the Folsom Municipal Code, to guide the planning and design of the neighborhood. These Guidelines provide a comprehensive overview of the design criteria required to implement the desired physical

form of the community and its key features. The Guidelines address land use, site design, circulation, landscaping, architectural character, and other components to create a distinguished community comprised of high quality design and interconnected open spaces.

These Guidelines function to:

1. Implement the City of Folsom General Plan goals for the Plan Area.
2. Implement the Folsom Plan Area Specific Plan.
3. Complement the design guidelines for "Public Realm" space set forth in the Community Design Guidelines that apply to the entire Plan Area with project-level design standards.
4. Establish a design framework within which developers, builders, and architects/designers can conceive and produce high-quality design and construction within the development.
5. Create a design review framework by which to evaluate, critique, and approve development projects on individual sites within the Plan Area.

The FPASP (and amendments to the FPASP) and the Planned Development Permits provide the zoning and development standards for the project, with further project-level refinements included in these Design Guidelines. The FPASP provides that in the event of conflict between the FPASP and the Folsom Municipal Code, the provisions of the FPASP will take precedence. The project-level Design Guidelines are required by the FPASP and approved as part of the Planned Development Permits. Therefore, the project-level Design Guidelines also take precedence over any conflicting provision in the Folsom Municipal Code. The Community Design Guidelines, also required by the FPASP, apply to the entire Plan Area, and govern design features for the "Public Realm" space (as defined in the Community Design Guidelines). Pursuant to

development agreements in place on most properties within the FPASP, the Community Design Guidelines (referenced in the development agreements as "Design Guidelines") cannot be amended without the consent of all "Participating Landowners," which is generally defined as those owners with approved, executed and recorded development agreements.

1.4 DOCUMENT AUTHORITY

The Plan Area consists of property within the city limits of the City of Folsom and is subject to the land use and jurisdictional authority of the City's relevant ordinances and codes. The Plan Area, and the Russell Ranch project in particular, are within the FPASP (including those amendments to the FPASP approved for the Russell Ranch project). The Russell Ranch project (including Broadstone Estates) also is subject to First Amended and Restated Development Agreements by and between the City of Folsom and TNHC Russell Ranch, LLC and separately between the City of Folsom and Elliott Homes, Inc. relative to the Folsom South Specific Plan ("Amended and Restated Development Agreement"). Both the FPASP and the Amended and Restated Development Agreements require preparation and approval of both community-wide and project-level design guidelines.

The Folsom City Council approved Community Design Guidelines to govern the Public Realm portions of the FPASP by Resolution No. __, dated [], 2015 to meet the first requirement. These project-level design guidelines, once approved, will satisfy the second requirement of the FPASP and the Amended and Restated Development Agreement. Pursuant to the Amended and Restated Development Agreement, once approved by the City Council, the provisions of the Community Design Guidelines and the project-level Design Guidelines shall be vested for the term of that agreement; i.e., up to and including June 30, 2044.

Environmental review for the Russell Ranch project (including these Design Guidelines) was completed by certification of the Final Environmental Impact Report in 2015, and for Broadstone Estates in 2016 and by approval of these Design Guidelines, the Folsom City Council also made a finding of consistency with the General Plan and the FPASP.

The General Plan provides the overall guidance for the City's physical development by setting forth general goals, objectives, policies, and programs for the entire City planning area. The Planned Development Zoning Ordinance adopted for the property, consistent with Chapter 17.38 PLANNED DEVELOPMENT DISTRICT of Title 17 of the City of Folsom Municipal Code, along with these Guidelines, implement the City General Plan and the FPASP with specific development standards and design guidelines for this Project, governing individual project applications and construction. This set of guidelines establishes a link between the General Plan, FPASP and future individual project level development proposals.

1.5 ADMINISTRATION OVERVIEW

1.5.1 Compliance

The FPASP (and approved amendments to the FPASP) and the Planned Development Permits provide the zoning and development standards for this project, with further project-level refinements included in these Design Guidelines. The City Planning staff, Planning Commission, and City Council will use these Design Guidelines as a vehicle to review specific development proposals and to implement the project's vision and regulations. Future development proposals and plans, whether individual buildings or collectively phased projects, must comply with these Guidelines, as well as the General Plan, FPASP (and amendments to the FPASP) and Zoning Code, where applicable. These Design Guidelines are intended to be used

by City staff, property owners, architects, landscape architects, designers, builders, and developers in the planning and design of individual projects within the Plan Area.

1.5.2 Conflicts with City Code and other Approved Entitlements or Policies

The Russell Ranch SPA and Broadstone Estates SPA (separately) modified certain provisions of the FPASP, and these Design Guidelines are intended to implement the provisions of these Specific Plan Amendments. Therefore, should particular elements in these Design Guidelines or the Planned Development Zoning Ordinance adopted for the property conflict with development standards or regulations in the Folsom Zoning Code or the Folsom Plan Area Specific Plan, these Design Guidelines shall prevail. However, design components within the "Public Realm" (as defined in the Community Design Guidelines) cannot be amended without the consent of all "Participating Landowners" (as defined in development agreements between the landowners and the City). Therefore, the Community Design Guidelines will prevail in the event of any inconsistency between these Design Guidelines and the Community Design Guidelines. Where these Design Guidelines provide greater specificity on design detail for components of projects within the Public Realm, the Community Development Director shall determine that the project level design detail of components included within the Public Realm is consistent with, and does not purport to amend, the requirements set forth in the Community Design Guidelines.

Conversely, any particular element or provision not specifically covered in these Design Guidelines shall be subject to the provisions of the Community Design Guidelines for the Plan Area (as to components of the "Public Realm"), and otherwise to the provisions of the Russell Ranch and Broadstone Estates SPAs, the FPASP and/or the Folsom Municipal Code as applicable. As provided for in the FPASP (as amended by the Russell Ranch Specific Plan Amendment), in any instances

where the Russell Ranch and Broadstone Estates SPA's provisions and Design Guidelines conflict with the requirements of the Folsom Municipal Code, the Russell Ranch and Broadstone Estates SPA's provisions and the Design Guidelines will take precedence. Where the Russell Ranch and Broadstone Estates SPAs or its Design Guidelines do not address a specific provision, the FPASP and/or the Community Design Guidelines (as to components of the "Public Realm") will take precedence. If none of these entitlements or policy documents addresses a specific provision, the Folsom Municipal Code requirements remain in force.

1.5.3 Modifications and Amendments

The Planned Development Design Guidelines are intended to encourage and direct a high level of design quality to the project site while permitting flexibility for creative expression and innovative design solutions. However, deviations to these guidelines may be considered for projects with special and unique design characteristics during the Russell Ranch Design Review Committee (RRDRC) and the City's Design Review process and are categorized as either minor administrative modifications or amendments. The criteria to be applied for evaluating such modifications and amendments are set forth in Section 13.3.1 of the FPASP and shall be controlling for this project. Amendments to these Design Guidelines shall be reviewed and approved as required by the FPASP, the Folsom Municipal Code and/or California Government Code Section 65453.

In addition to the criteria set forth in Section 13.3.1, minor administrative modifications shall also include, but are not limited to, architectural style design modifications and architectural material substitutions that are consistent with and do not substantially change the overall intent of these Design Guidelines. Review and approval of minor administrative modifications shall be conducted by the Community Development Director.

The Community Development Department may, at its discretion, defer review and action of any item where it has decision making authority to the City Planning Commission and/or City Council; however, unless subject to an appeal, minor administrative modifications do not require review by either of these legislative bodies. Decisions of the Community Development Director are subject to appeal to the Planning Commission, and decisions of the Planning Commission are subject to appeal to the City Council.

1.6 RESIDENTIAL DESIGN REVIEW PROCESS

The design review process described in this section is intended to ensure that residential villages within Russell Ranch contribute to the character and quality envisioned for the neighborhood. This four-step process is intended to be efficient, without compromising the quality of design solutions. The Russell Ranch Design Review Committee (RRDRC), comprised of representatives of the master developer and design professionals appointed by the master developer, will review all designs developed for the Russell Ranch neighborhood prior to submittal to the city.

STEP 1: PROJECT APPLICATION

The design review process will commence upon receipt of the Builder's application form and review fee. At the applicant's request, a kick-off and orientation meeting with the RRDRC during this phase may be scheduled.

Submittal Requirements:

Completed application form and fee

STEP 2: PRELIMINARY DESIGN REVIEW

This step is intended to establish and define the project's pre-

liminary architectural and landscape character and concepts. Upon review and approval of the Builder's submittal package, the RRDRC will schedule a Preliminary Design Review Session, during which the RRDRC will meet with the builder to review and discuss the submittal.

The Preliminary Design Review Session is an opportunity to review the following design criteria:

- o Selected architectural styles from the Russell Ranch Architectural Palette. Applicant may propose additional architectural styles that are consistent with the neighborhood vision for the RRDRC's review and approval.
- o Architectural form, massing, roofs, and details, which establish character.
- o Preliminary concepts for colors and materials.
- o Landscape concepts identifying major tree and shrub massing, hardscape areas, and proposed character.
- o Walls and fencing

Following the Preliminary Design Review, the RRDRC shall prepare and submit to the applicant, within 15 business days of plan submittal, a written memorandum outlining the agreed-upon direction of the RRDRC and the applicant.

Submittal Requirements:

CIVIL / PLANNING

1. Location map showing project location within the overall neighborhood.

LANDSCAPE

2. Landscape concept plans, identifying the general planting scheme, street tree program, typical front, side, and rear yards. Plans shall be prepared at a minimum scale of 1"=20'.

3. Color illustrative depicting typical landscape treatment for at least three contiguous lots, including one corner lot. The typical plan shall include at least one of each floor plan proposed for the project. The plan shall include a description of the landscape concept.

ARCHITECTURE

1. Preliminary building floor plans and front elevations for all proposed plans. These should be at minimum 1/4"=1'-0" scale.
2. Building coverage or floor area ratio calculations.
3. Consistency with project development standards and architectural guidelines.
4. Architectural color and material sample boards (or equivalent information as approved by the RRDRC) for every color scheme by architectural style intended. These should be noted by elevation style for each product.

The RRDRC will issue a Preliminary Design Review Memorandum (PDRM) detailing the results of the Preliminary Design Review. The PDRM will state one of the following:

1. Approved to move forward to Final Design Review
2. Approved to move forward to Final Design Review with Comments & Conditions
3. Denied with Comments; resubmittal of Preliminary Design Review is required

STEP 3: FINAL DESIGN REVIEW

This step is intended to review the specific designs for the architecture and landscape elements of the project.

Upon receipt of an approved PDRM, more detailed project plans shall be prepared and submitted to the RRDRC for design review. Plans shall be a progression of the approved plan and direction established during Preliminary Design Review.

Professionals licensed to practice in the State of California shall prepare all Architecture, Civil Engineering, and Landscape Architecture plans. No non-licensed design work shall be permitted.

Submittal Requirements:

CIVIL / PLANNING

1. Dimensioned site plan showing:
 - Building footprints
 - Porches and patios
 - Garages
 - Street curbs and rights-of-way
 - Easements
 - Driveways and walkways
 - Dimensioned building setbacks
 - Compliance with project development standards
 - Garbage locations

2. On all motor court lots, utility coordination drawings, showing location and visual mitigation measures for all major utilities must be provided. Careful attention should be given to the placement of utility and irrigation cabinets, backflow preventers, and garbage bin locations to mitigate their visibility.

LANDSCAPE

3. Landscape Plans (minimum scale 1"=20') including:
 - Cover sheet with sheet index.

- Plant material and hardscape list and key, including finishes and colors of hardscape and fencing.
 - Typical landscape, planting, and irrigation plans for each unique footprint type and each lot type (i.e., corner lot, loop lot, or other non-standard lot).
 - Fencing, hardscape, and planting details.
 - Fencing site plan.
 - Plant lists should include species diversity identified with WUCOL ratings, relating to water efficient landscape ordinance AB 1881.
4. Site Plan / Landscape Concept for Model Home Complex, Sales Office, and Temporary Marketing Facility (minimum scale 1"=20'). Model landscape plans may be deferred at the discretion of the RRDRC.

ARCHITECTURE

5. Colored street scene showing at least three contiguous lots, actually occurring within the subject site, including one corner lot. Each plan type and an example of each selected architectural style must be depicted. The lot number, plan type, and architectural style shall be identified for each lot.
6. Architectural construction drawings, including floor plans, roof plans, secondary unit plans, alternatives or options, all exterior elevations (including interior courts), sections, and key details, prepared at a minimum scale of 1/4"=1'-0").
7. Architectural color and material sample boards (or equivalent information as approved by the RRDRC) for every color scheme by architectural style intended. These should be noted by elevation style for each product.
8. The builder shall submit to the RRDRC, plotting for each phase of construction to ensure that housing diversity is delivered for each neighborhood.

MISCELLANEOUS

9. Comment response memo identifying the steps taken to address RRDRC comments from Step 2: Preliminary Design Review.
10. Estimated Construction Schedule for completion of the project, including improvements, model home complex site improvements, and phasing.

STEP 4: CITY DESIGN REVIEW SUBMITTAL

After final approval by the RRDRC, applicant shall submit for Design Review by the City of Folsom. The Community Development Department will evaluate and determine the proposed project's consistency with the Russell Ranch Design Guidelines and the City's other applicable requirements as set forth in Section 1.5.2 of these Design Guidelines (and in the order of priority established in that Section) and forward the project to the Planning Commission for final review and approval.

STEP 5: CONSTRUCTION DOCUMENT REVIEW

After Design Review approval by the City of Folsom, applicant shall submit completed construction documents to the RRDRC to review for consistency of designs with approvals through the design review process.

Within 15 days of construction document submittal, the RRDRC will submit to the applicant a memorandum indicating one of the following:

1. Approved to move forward for building permit submittal to the City of Folsom.
2. Denied with comments; resubmittal of construction documents is required.

The RRDRC reserves the right to inspect plans and conduct field inspections.

1.7 DOCUMENT ORGANIZATION

The Russell Ranch Design Guidelines have been prepared according to the following structure to guide development of the neighborhood.

CHAPTER 1: INTRODUCTION

Chapter 1 summarizes the context of the Russell Ranch site, its location and purpose, and outlines the authority and structure of this document.

CHAPTER 2: NEIGHBORHOOD FRAMEWORK

This chapter describes the overall vision and goals for the Russell Ranch neighborhood, specifies the guiding design and planning principles, and explains the physical framework for key elements such as land use and circulation, residential land uses and densities, open space, and parks.

CHAPTER 3: STREETScape & NATURAL ENVIRONMENT GUIDELINES

This chapter describes the landscape framework and principals applied to the Russell Ranch neighborhood for streetscape, community interface, park, and open space landscapes. This section also discusses guidelines for landscape design elements such as lighting, site furniture, fences and walls, conservation, and sustainable planting.

CHAPTER 4: ARCHITECTURAL DESIGN GUIDELINES AND DEVELOPMENT STANDARDS

This chapter outlines design principles, development standards, and architectural guidelines for Russell Ranch to assist homebuilders in creating unique, memorable, meaningful, and relevant housing solutions for the neighborhood. Design guidelines for the neighborhood gathering Recreation Center are also addressed within this chapter.

CHAPTER 5: BROADSTONE ESTATES

Chapter 5 summarizes the context of the Broadstone Estates site, its location and purpose, and outlines the standards that apply specifically to this community.

CHAPTER 5: BROADSTONE ESTATES

5.1 INTRODUCTION

Broadstone Estates at Russell Ranch (Broadstone Estates) is located within the Folsom Area Specific Plan adjacent to the northwestern corner of Russell Ranch, along US Highway 50.

The FPASP zoning for the approximately ±37.2 acre site is SP-SF-PD and SP-OS2-PD.

Broadstone Estates will be a village within Russell Ranch and will comply with the guidelines established in chapters 1-4 of this document except where articulated in this Chapter.

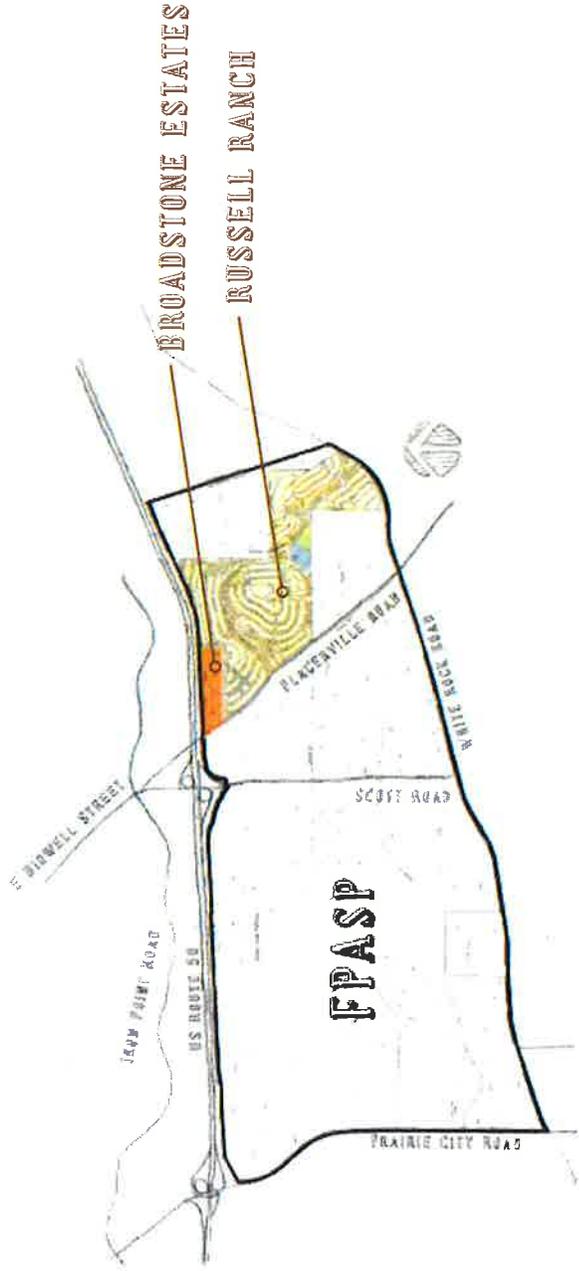


Figure 1: Vicinity Map

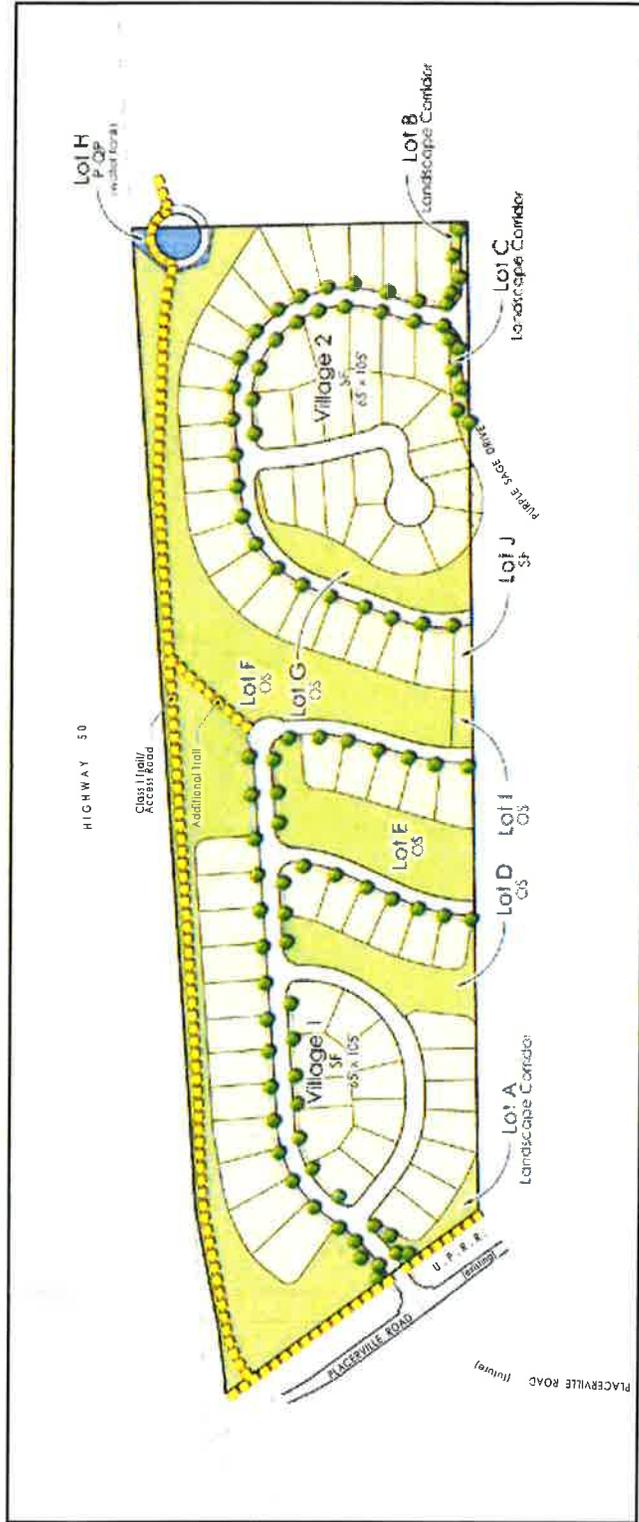


Figure 2: Illustrative Site Plan Exhibit

5.2 ARCHITECTURE

5.2.1 INTRODUCTION

Section 5.2 defines the design principles and development standards that apply to all residential development within Broadstone Estates. These guidelines and standards articulate the lot characteristics, setbacks, garage type and orientation.

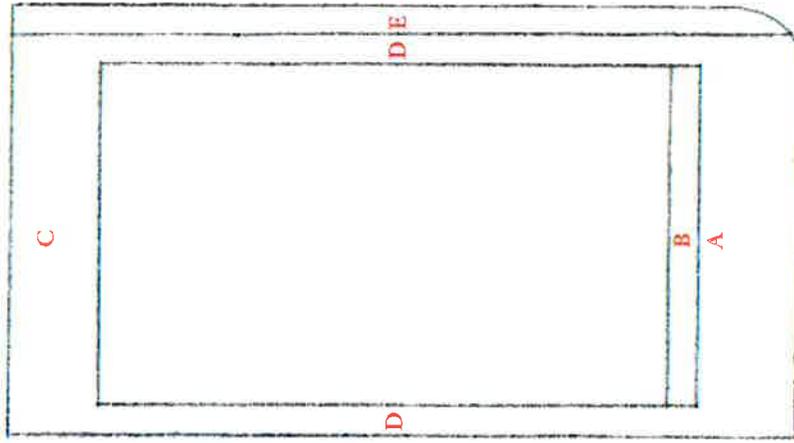
Broadstone Estates will comply with the aforementioned guidelines for neighborhoods within the FPASP and Russell Ranch with the exception of garage configurations, which will be discussed in section 5.2.2.

5.2.2 Garages

Three car front loaded garages are permitted within Broadstone Estates and are encouraged to be recessed from the adjacent building face where feasible.

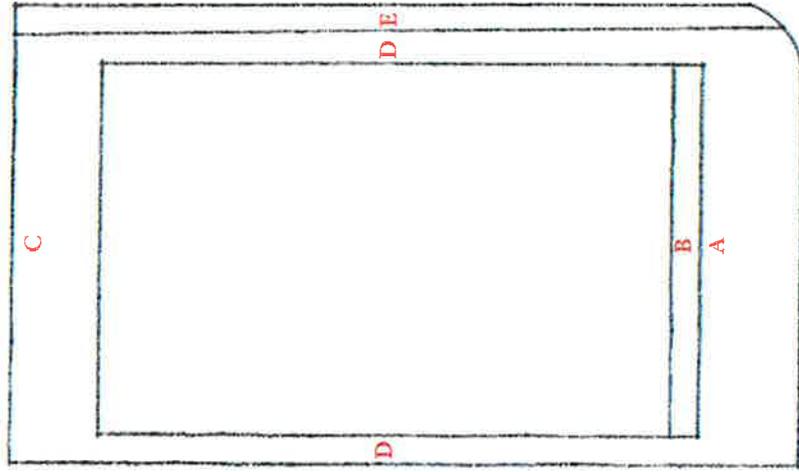
5.3 DEVELOPMENT STANDARDS

60' X 105' LOTS



| DESCRIPTION: | SFD traditional lot | CATEGORY: | SF |
|--|---------------------|--|-------|
| Minimum lot area: | 6,300 Square Feet | A. Minimum front setback to living space or covered outdoor space: | 17.5' |
| Minimum lot width: | 60' | B. Minimum garage setback: ² | 23' |
| Minimum lot depth: | 105' | C. Minimum rear setback: ² | 15' |
| Maximum lot coverage: ¹ | 50% | D. Minimum interior side setback: ² | 5' |
| Maximum height (single story / 2-story): | 28' / 35' | E. Minimum street side setback: ³ | 10' |

65' X 105' LOTS



| DESCRIPTION: | SFD traditional lot | CATEGORY: | SF |
|--|---------------------|--|-------|
| Minimum lot area: | 6,825 Square Feet | A. Minimum front setback to living space or covered outdoor space: | 17.5' |
| Minimum lot width: | 65' | B. Minimum garage setback: ² | 23' |
| Minimum lot depth: | 105' | C. Minimum rear setback: ² | 15' |
| Maximum lot coverage: ¹ | 50% | D. Minimum interior side setback: ² | 5' |
| Maximum height (single story / 2-story): | 28' / 35' | E. Minimum street side setback: ³ | 10' |

5.3.1 Development Standards Footnotes

1. A 10% lot coverage bonus for 3-sided outdoor covered unconditioned spaces (except with fire-place option , then 2-sided permitted) and/or guest house/pool house/casita (i.e., detached habitable structure with only sleeping, living and bathroom) shall be granted. In no case shall the total lot coverage exceed 60%.
2. Accessory structures shall be consistent with the FPASP standards of 5' side yard (interior lot lines) and 5' rear yard setbacks.
3. Street side setback shall be 5' when adjacent to an open space lot 5' or greater in width.