Addendum

To The
Gasser Master Plan Program
Final Environmental Impact Report
City of Napa, Napa County, California
State Clearinghouse Number 2002032055

Prepared for:

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CHAPTER 1: INTRODUCTION

1.A – Overview

This Addendum has been prepared by the City of Napa ("City") to comply with the requirements of the California Environmental Quality Act ("CEQA") (Public Resources Code Section 21000, et seq.) and the CEQA Guidelines (California Administrative Code, Title 14, Section 15000, et seq.), as they apply to several development permit applications submitted by Napa Vista Tulocay LLC (the "Applicant") to implement Applicant's Gasser Master Plan Development Project in the City of Napa. The Gasser Master Plan Development Project was the subject of the Gasser Master Plan Program Environmental Impact Report, State Clearinghouse No. 2002032055 (the "Master Plan EIR") certified by the Napa City Council on November 21, 2006, concurrent with its adoption of the Gasser Master Plan.

The applications that are the subject of this addendum and associated analysis have been submitted by the Applicant in connection with its development of the Vista Tulocay residential project. As explained herein, the Vista Tulocay residential project is entirely within the Gasser Master Plan area, and all of the development proposed by the Vista Tulocay residential project was described and evaluated in the Master Plan EIR. Consequently, the applications that are the subject of this addendum all constitute "subsequent activities in the program" of development that was evaluated in the Master Plan EIR, within the meaning of Section 15168(c) of the CEQA Guidelines (see Section 1.B below). The applications that are the subject of this addendum, and which comprise the "Project" for purposes of this addendum, are:

The "Project Approvals" requested as a part of this application include:

1. A Zoning Amendment to remove the requirement of on-street parking within North Drive and Entry Road.
2. A Design Review Permit to authorize the site plan, building plans and elevations for 282 residential units located within the Gasser North portion of the Gasser Master Plan Area.
3. A lot line adjustment to reconfigure the property line between two existing parcels that make up the project site.
4. A Development Agreement: This agreement would authorize the vesting of the current General Plan designation and Zoning Ordinance that allows up to 500 residential units, including the 282 units under the current Design Review Application and the up to 218 units which will be constructed as a second phase, which will be subject to future Design Review. The Development Agreement also provides for timing on construction permits and construction for the Project and timing on processing approvals of the remaining up to 218 of the 500 units contemplated in the Master Plan. It provides for payment mechanisms for certain fees, specifies that certain exactions will not be imposed on the second phase if accepted as part of the first phase, and applies the current regulations for a period of time in order to complete the Project and remaining 218 units

contemplated in the Master Plan. It also provides the City with accelerated and specific housing fees for the entire 500 potential units consistent with the "alternative equivalent action."

5. An "alternative equivalent action" to satisfy the affordable housing inclusionary requirements of chapters 15 and 17 of the Napa Municipal Code. The proposed alternative equivalent action provides for the applicant's payment of two million dollars ($2 million) to the City either 1) within one hundred eighty (180) days of the Effective Date of the Development Agreement by and Between the City of Napa and Vista Tulocay, LLC, or 2) prior to issuance of the first building permit for the Vista Tulocay project, which is in advance of when the applicable affordable housing impact fees would otherwise be payable. This alternative equivalent action satisfies all affordable housing obligations for both this Project and all further buildout of the Tulocay Village (i.e. "Phase II" buildout of up to 218 units) required by the Master Plan and the Master Plan's approved Alternative Equivalent Proposal (R2006 214).
6. Minor modifications to the Conditions of Approval of the Gasser Master Plan (and as modified by amendments effected under R2012-164.

The Project is more fully described in Chapter 2 of this Addendum.

1.B – Applicable CEQA Requirements and Summary of Determinations

The Master Plan EIR is a "Program" EIR, which is defined by CEQA Guidelines Section 15168 as:

> (a) General. A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:
>
> (1) Geographically,
>
> (2) As logical parts in the chain of contemplated actions,
>
> (3) In connection with issues of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
>
> (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

CEQA Guidelines Section 15168 explains that Program EIRs may be used for subsequent activities contemplated in the Program EIR. Specifically, Section 15168(c) states:

> (c) Use with Later Activities. Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.

(1) If a later activity would have effects that were not examined in the program EIR, a new study would need to be prepared leading to either an EIR or a negative declaration.

(2) If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the Project covered by the program EIR, and no new environmental document would be required.

(3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.

(4) Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.

(5) A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the Project described in the program EIR, and no further environmental documents would be required.

As required by Section 15168(c)(2), the City has analyzed the Project under Section 15162 to determine whether its approval of the Major Design Review Application would result in any new environmental effects or require any new mitigation measures. Section 15162 provides, in relevant part, as follows:

(a) When an EIR has been certified or negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

(1) Substantial changes are proposed in the Project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the Project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time of the previous EIR was

certified as complete or the negative declaration was adopted, shows any of the following:

(A) The Project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

To perform the evaluation required by Section 15162, the City utilized the Environmental Checklist format set forth in Appendix G of the CEQA Guidelines. The City evaluated the Major Design Review Application to determine, with respect to each category on the Environmental Checklist, whether its approval of the Application could result in any new or more severe environmental effects, or require any new mitigation measures, as compared to the effects and mitigation measures identified and described in the Master Plan EIR.

Based on that evaluation, and as is discussed in greater detail in Chapter 4, the City has determined that: (i) its approval of Napa Vista Tulocay LLC's Major Design Review Application and development of the **282** residential units along with its application for the associated Project Approvals consistent with such approvals would not alter any of the previous conclusions contained in the Master Plan EIR; (ii) would not result in any new environmental effects or require any new mitigation measures that were not addressed and described in the Master Plan EIR; (iii) no new environmental document is required under CEQA Guidelines Section 15168; and therefore, (iv) the City can approve the Project Approvals as being within the scope of the project covered by the Master Plan EIR. This Addendum has been prepared to document these determinations pursuant to CEQA Guideline Sections 15162, 15164 and 15168.

All documents referenced in this addendum are available for review by the public at the City of Napa, 1600 First Street, Napa, CA 94559.

CHAPTER 2: PROJECT DESCRIPTION

2.A – Gasser Master Plan

The City certified the Master Plan EIR on November 21, 2006, and approved the Gasser Master Plan and associated rezoning, including the affordable housing "in lieu equivalent action," on December 12, 2006. As approved, the Master Plan permits the development of up to **500** residential units and **277,200** square feet of commercial and community-serving facilities over **25** acres in the City of Napa. The Master Plan assigns the residential and non-residential development to specific portions of the Gasser Master Plan area. The instant Project (including each and all of its component applications) does not change the locations or levels of development set forth in the approved Gasser Master Plan.

2.B – Project Overview

The Project that is evaluated in this addendum is comprised of the following applications for City approval:

1. A Zoning Amendment to remove the requirement of on-street parking within North Drive and Entry Road.
2. A Design Review Permit to authorize the site plan, building plans and elevations for 282 residential units located within the Gasser North portion of the Gasser Master Plan Area.
3. A lot line adjustment to reconfigure the property line between two existing parcels that make up the project site.
4. A Development Agreement: This agreement would authorize the vesting of the current General Plan designation and Zoning Ordinance that allows up to 500 residential units, including the 282 units under the current Design Review Application and the up to 218 units which will be constructed as a second phase, which will be subject to future Design Review. The Development Agreement also provides for timing on construction permits and construction for the Project and timing on processing approvals of the remaining up to 218 of the 500 units contemplated in the Master Plan. It provides for payment mechanisms for certain fees, specifies that certain exactions will not be imposed on the second phase if accepted as part of the first phase, and applies the current regulations for a period of time in order to complete the Project and remaining 218 units contemplated in the Master Plan. It also provides the City with accelerated and specific housing fees for the entire 500 potential units consistent with the "alternative equivalent action."
5. An "alternative equivalent action" to satisfy the affordable housing inclusionary requirements of chapters 15 and 17 of the Napa Municipal Code. The proposed alternative equivalent action provides for the applicant's payment of two million dollars ($2 million) to the City either 1) within one hundred eighty (180) days of the Effective Date of the Development Agreement by and Between the City of Napa and Vista Tulocay, LLC, or 2) prior to issuance of the first building permit for the Vista Tulocay project, which is in advance of when the applicable affordable housing

impact fees would otherwise be payable. This alternative equivalent action satisfies all affordable housing obligations for both this Project and all further buildout of the Tulocay Village (i.e. "Phase II" buildout of up to 218 units) required by the Master Plan and the Master Plan's approved Alternative Equivalent Proposal (R2006 214).

6. Minor modifications to the Conditions of Approval of the Gasser Master Plan (and as modified by amendments effected under R2012-164.

The above applications are referred to collectively in this addendum as the "Project." Each of the above Project components is discussed below.

MAJOR DESIGN REVIEW APPLICATION

The Project application seeks design review approval for 282 apartments on 12.56 acres of a 20.93 acre site, with an average density of 25.62 units per acre (see sheet A0-4, Scope of Work/Phasing Plan). A total of 9 residential apartment buildings with five different building configurations is proposed. The total number of apartment homes in each building ranges from 17 to 46 units. The residential buildings will be three-story (37-feet) walk-ups with attached, tuck-under one car garages. Multiple open-air breezeways are provided at each building to increase horizontal circulation and have been placed at key points of each building as vertical tower elements to be quickly identifiable to residents and guests. The site is located behind (west of) the vacant commercial property at 467 Soscol Avenue.

A leasing and business center is proposed for use by the residents, to be located near the entry of the Project, which is intended to be the "gateway" into the Tulocay Village residential community. A landscaped plaza will be located at the building entry. The leasing and business center would include a conference room and Wi-Fi would be installed to permit working from home and to promote live/work lifestyles at Tulocay Village. A central mailroom for the entire community would be provided along with a do-it-yourself bike repair area, which would be located along one of the pedestrian linkages (see sheets A1-21 & L-2). There would be a designated walking trail for all residents and the general public as shown on sheet A0.5 Arch Site Plan and L-9 Pedestrian Circulation.

The Project is proposing to construct internal roadways and parking areas around the perimeter of the Project, with the exception of the units adjacent to the southeasterly wetland area. The east/west road and head-in parking adjacent to the Future Residential Phase 2 boundary will act as a loop road to connect the Main Drive and perimeter roadway running along the NSD easement with connection back to Oil Company Road and ultimately Soscol Avenue.

The apartment home buildings would be wood-framed, with stucco finish, Hardie board siding, vinyl windows, and composition roofs. At three-stories, the buildings would be approximately 37 feet tall at the highest point (under the 45 foot maximum height limit). The setbacks from the Project boundary are also shown on sheet A0-5 Arch Site Plan.

According to the Applicant, the designs are intended to create a "signature" style for the Project, which will help to reinforce a modern village feel for the entire property and effectively bridge neighboring uses, massing, and architectural styles, with a focus on materials, massing, articulation, roof forms, building entries, and pedestrian-level detailing. The architectural style proposed is a blend of contemporary and traditional architectural forms and materials. The Applicant proposes to "theme" the residential community in a more contemporary vernacular since it will be located behind regional serving retail in the future. The commercial retail area in the Master Plan area is intended to serve as a "gateway" to the residences at the Tulocay Village District. See sheets A2-1 thru A2-23 for proposed building elevations.

The Applicant has proposed a total of 77 one-bedroom units (27.3%), 186 two-bedroom units (66.0%), 11 three-bedroom units (3.9%), and 8 three-bedroom townhome style units (2.8%) units. The square footage for the one-bedroom units range from 625 to 866 sf, the two-bedroom units range from 968 to 1,220 sf and the three-bedroom units range from 1,275 to 1,325 sf. Each apartment unit is designed to include low volatile organic compounds (VOC) Green Label wall-to-wall carpeting and/or wood flooring, formaldehyde-free cabinets, and central heating and air. Ultra-low-flow toilets would be installed in all the units (Chapter 13.09, Napa Municipal Code). The buildings are designed to exceed Title 24 energy standards and would incorporate Energy-Star-rated appliances, energy-efficient lighting, double-pane windows, and energy-efficient insulation. The clubhouse includes one natural gas fireplace. The Project would also include on-site bicycle racks.

As proposed by the Applicant, the Project would provide 485 off-street parking spaces, which would include 185 single-car garages, 103 carports, and 197 open spaces. All parking would be provided on site. Each apartment home would have at least one dedicated, covered stall adjacent to their building. In addition, the Project site is located within walking distance to bus routes along Soscol Avenue.

Landscaping/Exterior Improvements

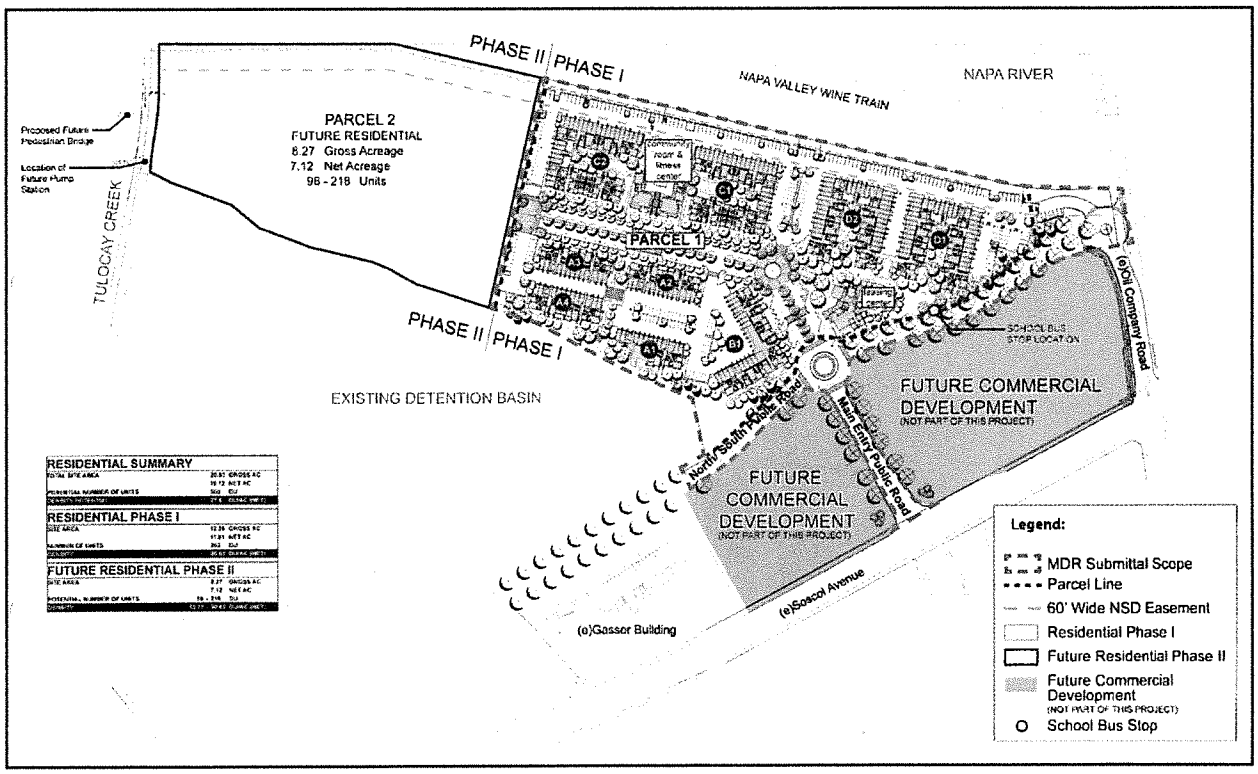
The Project's landscaping plan is designed to maximize communal outdoor space using drought-tolerant, low-water usage plants in compliance with Chapter 17.52 of the City's Municipal Code and the City's Standard Plans and Specifications that address landscaping. The Project's proposed Landscaping Plan is shown on sheet L-1. The Project would plant trees in compliance with the City's ordinance that oversees the identification, removal, and protection of trees on private property (Chapter 12.45). According to the Project's landscaping plan, the Project will plant new trees including red maple, magnolia, eastern redbud, Chinese pistache, London plane, and flowering pear. All onsite landscaping and irrigation plans would be designed by a licensed landscape architect or landscape contractor and approved by the City of Napa Public Works Department Water Division, prior to the approval of Improvement Plans and issuance of building permits for the Project.

The Project site is located at a higher elevation than adjacent lands. The grade differential at the Project boundaries is primarily made up by existing slopes. Project development areas are predominantly above the existing slopes but a few short retaining walls would be required at isolated locations along the eastern boundary of the site to provide flat area for buildings and pedestrian walkways. Along the eastern boundary of the Project site, the Project is proposing a 4-foot high fence. Vegetation, including trees and shrubs, would be planted along the exterior of the boundary walls where applicable in compliance with the City's ordinance (17.08.040 D) that requires a landscape buffer.

If the Major Design Review application is approved, development of the site would require site clearing and grub removal, as well as removal of other trees and vegetation.

Circulation/Infrastructure Improvements

Primary access to the Project site would be from Soscol Avenue through Tulocay Place on a new public road (Main Entry Road) located approximately half way between Oil Company Road and Silverado Trail. Secondary Project access is to be provided via Oil Company Road to the north and Gasser Drive to the south. A new public road (North/South Road) is to be constructed along the Project's easterly boundary connecting Oil Company Road to Gasser Drive.



The internal Project circulation provides access to the units and parking areas, as shown on sheet L9.

The Project site is located entirely within the Napa City limits and would be served by the City for the provision of water. The Napa Sanitation District would provide wastewater services. The proposed Project would include new water, sewer, and storm drain infrastructure on site to serve the residential development designed in compliance with the City's Standard Plans and Specifications. Water infrastructure for the Project would be connected to the water pressure zone 3 main lines that are to be installed and converted as part of the Gasser Master Plan. Sewer infrastructure for the Project will be connected to Napa Sanitation District's 54" trunk main located along the westerly Project boundary. Project drainage is to be routed to the Napa County Flood Control District's detention basin along the southeasterly boundary of the Project. The Project's on-site water, sewer, and storm drain lines are proposed to be located within driveway and landscaped corridors within the Project site.

The Project includes separate water connections (domestic water, fire, and irrigation) to the converted zone 3 water main in Soscol Avenue, and to the zone 3 water main near the end of Hartle Court. A 12" public water main is to be installed in the main Project driveway running along the westerly portion of the site. Water, fire and irrigation services are to be provided to each parcel off of this public water main.

The on-site sewer lines for the Project would connect to Napa Sanitation District's 54" trunk main along the westerly Project boundary at two locations. The public and private on-site sewer network is comprised of 8" and 6" diameter sewer mains generally routed to each building along the Project driveways.

The Project's storm drain infrastructure consists of 3 primary drainage areas each tributary to the Napa County Flood Control District's detention basin. Storm water treatment is to be provided by vegetated swales incorporated into the Project grading design at each of the three outlets to the detention basin. The main storm drain lines within the Project are to be routed along the driveways and through landscape areas to collect runoff from the driveways, parking areas, landscaped areas and rooftops.

The Project also includes natural gas, electrical, cable television, and telephone to serve the Project site. All new utilities would be installed underground, per Chapter 16.36 of the City's Municipal Ordinance. Each of these utilities would connect to infrastructure along Soscol Avenue, Oil Company Road and Gasser Drive. The Project is designed to have four electrical transformers on the site that would serve all the buildings and the individual units with electricity.

The Project includes on-site sidewalks that would serve residents of the Project and provide access to the new Project entrance road, the north/ south road between Gasser Drive and Oil Company Road and to the Tulocay Creek levee south of the Project. The North/South road is to have a 4-foot wide separated sidewalks along both sides of the Project's frontage, and a 6-foot wide attached sidewalk on the east side of the North/South Road south of the Project main entry road. The main Project entry road is to have 6-foot wide separated sidewalks on each side, and Oil Company Road is to have a 6–foot wide separated

sidewalk along its southerly side. The landscape/planter strip between the sidewalk and roadways would be landscaped with trees and drought-resistant plants.

Approval of this design review application will not have any significant environmental effects that were not previously analyzed in the Master Plan EIR.

DEVELOPMENT AGREEMENT APPLICATION

The proposed Development Agreement is consistent with all prior Master Plan approvals, and does not alter any of the Tulocay Village site or land uses that were evaluated in the Master Plan. Approval of this Development Agreement will not have any significant environmental effects that were not previously analyzed in the Master Plan EIR.

The Development Agreement provides for timing on construction permits and construction for the Project (i.e. Phase 1) and timing on processing approvals of the remaining residential units contemplated in the Master Plan (i.e. Phase 2 – up to 218 more units for a total of 500 units). It provides for payment mechanisms and locks in current regulations for a period of time in order to complete the Project and remaining 218 units contemplated in the Master Plan. It also provides the City with accelerated and certain housing fees for the entire 500 potential units. The actions contemplated in the Development Agreement will have no new or previously unidentified environmental impacts because the prior Master Plan approvals and EIR contemplated the full 500 units, with conditions of approvals and related City fees, and the Development Agreement does not alter any of the Tulocay Village site or land uses that were evaluated in the Master Plan, and the proposed Development Agreement sets forth legal obligations of Vista Tulocay, LLC and the City in implementing the Project and Master Plan development as contemplated in the EIR. Therefore approval of the Development Agreement does not change the development described in the Master Plan and evaluated in the EIR..

LOT LINE ADJUSTMENT APPLICATION

The requested entitlements include the approval of a lot line adjustment to relocate the property line between the two parcels (APN 046-190-065 & 066) that comprise the project site. The reconfigured property line would coincide with the boundary between Phase 1 and Phase 2 of the proposed development. Proposed Parcel 1 will be 8.27 acres in size and comprise the area of Phase 2. This parcel will take access from the main access road that will be stubbed at the northern boundary of the parcel. Proposed Parcel 2 will be 12.65 acres in size and will be developed with the 282 units proposed by this application.

Municipal Code Section 16.12.040.A provides that "[a] Lot Line Adjustment map may be submitted and approved between four or fewer parcels whereby land taken from one parcel is added to an adjoining parcel and does not create a greater number of lots than originally existed if each of the proposed lots meets all the requirements of local building and zoning ordinances." The proposed Lot Line Adjustment is comprised of

two parcels and therefore is consistent with the criteria for approval. The new lots conform to all applicable zoning standards of the MP G4, Tulocay Village District.

The lot line adjustment is consistent with all prior Master Plan approvals. The lot line adjustment does not add or subtract acreage from the proposed Tulocay Village site that was evaluated in the Master Plan, nor does it alter land uses evaluated by the Master Plan. Approval of the lot line adjustment will not have any significant environmental effects that were not previously analyzed in the Master Plan EIR.

MODIFICATIONS TO CONDITIONS OF APPROVAL

The Master Plan was approved in 2006 with certain conditions of approval. The City Council approved modifications to those conditions approval in conjunction with the Gasser North Modification application #11-0137 in 2012. At this time, modifications to some of the conditions of approval are proposed.

These modifications are discussed in Chapter 4. The proposed modifications to these conditions of approval will not have any significant environmental effects that were not previously analyzed in the Master Plan EIR.

SECTION 3: ENVIRONMENTAL ANALYSIS CHECKLIST

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Issues and Supporting Data Sources	Was Impact Analyzed in Prior Environmental Document(s)?	Does Vista Tulocay Project Involve New Significant Impacts or Substantially More Serve Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Document's Mitigations Implemented or Address Impact?
1. Aesthetics *Would the project:*					
a) Conflict with City goals and policies related to visual quality, to other applicable aesthetic or visual policies or standards?	Yes	No	No	No	Yes
b) Significantly alter the existing natural viewsheds, including changes in natural terrain or vegetation?	Yes	No	No	No	N/A
c) Significantly change the existing visual quality of the region or eliminate significant visual resources?	Yes	No	No	No	Yes
d) Significantly increase light and glare in project vicinity?	Yes	No	No	No	Yes
e) significantly reduce sunlight or introduce shadows in areas used extensively by the public?	Yes	No	No	No	Yes
2. Air Quality and Greenhouse Gases *Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.* *Would the project:*					
a) Conflict with or obstruct implementation of the applicable air quality plan?	Yes	No	No	No	Yes
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	Yes	No	No	No	Yes
c) Result in a cumulatively considerable net increase of any nonattainment pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions,	Yes	No	No	No	Yes

Issues and Supporting Data Sources	Was Impact Analyzed in Prior Environmental Document(s)?	Does Vista Tulocay Project Involve New Significant Impacts or Substantially More Serve Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Document's Mitigations Implemented or Address Impact?
which exceed quantitative thresholds for ozone precursors)?					
d) Expose sensitive receptors to substantial pollutant concentrations?	Yes	No	No	No	Yes
e) Create objectionable odors affecting a substantial number of people?	Yes	No	No	No	Yes
f) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Yes	No	No	No	Yes
g) Conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Yes	No	No	No	Yes
3. Biological Resources *Would the project:*					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Yes	No	No	No	Yes
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Wildlife and Game or US Fish and Wildlife Service?	Yes	No	No	No	Yes
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.)	Yes	No	No	No	Yes

Issues and Supporting Data Sources	Was Impact Analyzed in Prior Environmental Document(s)?	Does Vista Tulocay Project Involve New Significant Impacts or Substantially More Serve Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Document's Mitigations Implemented or Address Impact?
through direct removal, filling, hydrological interruption, or other means?					
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Yes	No	No	No	Yes
e) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare, or threatened species?	Yes	No	No	No	Yes
f) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?	Yes	No	No	No	Yes
g) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved plan?	Yes	No	No	No	N/A
4. Cultural Resources *Would the project:*					
a) Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?	Yes	No	No	No	N/A
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5?	Yes	No	No	No	N/A
c) Directly or indirectly destroy a unique paleontological resource or site or unique	Yes	No	No	No	N/A

Issues and Supporting Data Sources	Was Impact Analyzed in Prior Environmental Document(s)?	Does Vista Tulocay Project Involve New Significant Impacts or Substantially More Serve Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Document's Mitigations Implemented or Address Impact?
geologic feature?					
d) Disturb any human remains, including those interred outside of formal cemeteries?	Yes	No	No	No	N/A
5. Geology and Soils *Would the project:*					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	—	—	—	—	—
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	Yes	No	No	No	N/A
ii) Strong seismic ground shaking?	Yes	No	No	No	Yes
iii) Seismic related ground failure, including liquefaction?	Yes	No	No	No	Yes
iv) Landslides?	Yes	No	No	No	N/A
b) Result in substantial soil erosion or the loss of topsoil?	Yes	No	No	No	Yes
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off site landslide, lateral spreading, subsidence, liquefaction or collapse?	Yes	No	No	No	Yes
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	Yes	No	No	No	Yes
e) Have soils incapable of adequately supporting	Yes	No	No	No	N/A

Issues and Supporting Data Sources	Was Impact Analyzed in Prior Environmental Document(s)?	Does Vista Tulocay Project Involve New Significant Impacts or Substantially More Serve Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Document's Mitigations Implemented or Address Impact?
the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?					
6. Hazards and Hazardous Materials *Would the project:*					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Yes	No	No	No	Yes
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Yes	No	No	No	Yes
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Yes	No	No	No	N/A
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Yes	No	No	No	Yes
e) Result in a safety hazard for people residing or working in the project area for a project within the vicinity of a private airstrip or within an airport land use plan?	Yes	No	No	No	N/A
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Yes	No	No	No	N/A

Issues and Supporting Data Sources	Was Impact Analyzed in Prior Environmental Document(s)?	Does Vista Tulocay Project Involve New Significant Impacts or Substantially More Serve Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Document's Mitigations Implemented or Address Impact?
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	Yes	No	No	No	N/A
7. Hydrology and Water Quality *Would the project:*					
a) Violate any water quality standards or waste discharge requirements?	Yes	No	No	No	Yes
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	Yes	No	No	No	N/A
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?	Yes	No	No	No	Yes
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	Yes	No	No	No	Yes

Issues and Supporting Data Sources	Was Impact Analyzed in Prior Environmental Document(s)?	Does Vista Tulocay Project Involve New Significant Impacts or Substantially More Serve Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Document's Mitigations Implemented or Address Impact?
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	Yes	No	No	No	Yes
f) Otherwise substantially degrade water quality?	Yes	No	No	No	Yes
g) Place housing within a 100 year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	Yes	No	No	No	Yes
h) Place within a 100 year flood hazard area structures that would impede or redirect flood flows?	Yes	No	No	No	Yes
i) Expose people or structures to a substantial risk of loss, injury or death involving flooding as a result of the failure of a levee or dam	Yes	No	No	No	Yes
j) Result in inundation by seiche, tsunami, or mudflow	Yes	No	No	No	N/A
8. Land Use and Planning *Would the project:*					
a) Physically divide an established community?	Yes	No	No	No	Yes
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	Yes	No	No	No	Yes
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	Yes	No	No	No	N/A

Issues and Supporting Data Sources	Was Impact Analyzed in Prior Environmental Document(s)?	Does Vista Tulocay Project Involve New Significant Impacts or Substantially More Serve Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Document's Mitigations Implemented or Address Impact?
9. Noise *Would the project result in:*					
a) Conflict with land use compatibility guidelines for land uses contained in the Napa General Plan (shown in DTSP EIR Figure 4.I-3); noise levels at new receptors that would be above the "normally acceptable" level are considered to conflict with compatibility guidelines?	Yes	No	No	No	Yes
b) Increased noise along existing and new roadways to levels that exceed 65 Ldn ("normally acceptable"), as shown in DTSP EIR Figure 4.I-3?	Yes	No	No	No	Yes
c) Exposure of persons or generation of excessive groud-borne vibration or ground-borne noise levels?	Yes	No	No	No	Yes
d) Exposure of people residing or working in the Planning Area to excessive noise levels within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, or a private airstrip?	Yes	No	No	No	N/A
10. Population and Housing *Would the project result in:*					
a) Substantial unanticipated population, housing, or employment growth in excess of local share of regional projections that has the potential to result in adverse physical environmental effects?	Yes	No	No	No	Yes
b) Displacement of existing residents or housing units?	Yes	No	No	No	Yes
11. Recreation					

Issues and Supporting Data Sources	Was Impact Analyzed in Prior Environmental Document(s)?	Does Vista Tulocay Project Involve New Significant Impacts or Substantially More Serve Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Document's Mitigations Implemented or Address Impact?
Would the project:					
a) Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Yes	No	No	No	Yes
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	Yes	No	No	No	Yes
12. Transportation *Would the project meet the following guidelines:*					
a) When a signalized intersection operates at midrange LOS D (as allowed by the General Plan in most locations) or better under existing or interim baseline conditions, the addition of project trips degrades the intersection operations to LOS E or LOS F. The project mitigation should bring the facility to operate at midrange LOS D, at a minimum.	Yes	No	No	No	Yes
b) When a signalized intersection operates at midrange LOS E (as allowed by the General Plan in some locations and for state highway facilities) under existing or interim baseline conditions, the addition of project trips degrades the intersection operations to LOS F. The project mitigation should bring the facility to operate at midrange LOS E, at a minimum.	Yes	No	No	No	Yes
c) When a signalized intersection operates at LOS F (a violation of the General Plan LOS policy) under existing or interim baseline conditions, the addition of more than 50 peak-hour project trips contributes to the continuing operational	Yes	No	No	No	N/A

Issues and Supporting Data Sources	Was Impact Analyzed in Prior Environmental Document(s)?	Does Vista Tulocay Project Involve New Significant Impacts or Substantially More Serve Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Document's Mitigations Implemented or Address Impact?
failure at the intersection. The project mitigation should bring the facility to pre-project conditions.					
d) At an unsignalized intersection when the minor stop controlled approach operates at LOS E or better or has acceptable operation in terms of total control delay, the addition of project trips increases the total control delay to more than 4.0 vehicle-hours for a single lane approach or 5.0 vehicle-hours for a multi-lane approach. The project mitigation should bring the facility to operate at LOS E or to bring the total control delay to less than 4.0 vehicle-hours for a single lane approach or 5.0 vehicle-hours for a multilane approach, at a minimum	Yes	No	No	No	Yes
e) At an unsignalized intersection when the minor stop-controlled approach operates at LOS F and does not have acceptable operation in terms of total control delay, the addition of more than 50 peak-hour trips contributes to the continuing operational failure at the minor approach. The project mitigation should bring the facility to pre-project conditions.	Yes	No	No	No	Yes
f) If the proposed project is on a Crucial Corridor and the property is zoned Traffic Impact Overlay (TI), the project generates more than 520 trips/gross acre/day (or gross floor area equivalent). Uses with higher trip generate characteristics are prohibited unless: i) Adjustments in the gross floor area, gross acreage, operation, etc., are made to reduce the number of trips to an acceptable level as determined by the Public Works Director, or ii) The Public Works Director finds that	Yes	No	No	No	Yes

Issues and Supporting Data Sources	Was Impact Analyzed in Prior Environmental Document(s)?	Does Vista Tulocay Project Involve New Significant Impacts or Substantially More Serve Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Document's Mitigations Implemented or Address Impact?
the transportation benefits of the project clearly outweigh the adverse effect on the crucial corridor. Transportation benefits of the project may include roadway and safety improvements, traffic system management strategies, transit service enhancements, travel demand management strategies, among others.					
g) When operations failures occur under existing conditions, the project shall pay its fair share of the improvements necessary to bring the intersection in compliance with the General Plan LOS policies.	Yes	No	No	No	Yes
13. Utilities and Service Systems *Would the project:*					
a) Result in substantial adverse physical effects associated with the provision of new or physically altered police, fire, or school facilities, or the need for new or physically altered facilities; the construction of which could cause significant environmental impacts in order to maintain acceptable levels of service ratios, response times, or other performance objectives for any of the following services"	---	---	---	---	---
i) fire and police protection	Yes	No	No	No	Yes
ii) schools	Yes	No	No	No	Yes
iii) other public facilities	Yes	No	No	No	
b) Have insufficient water supplies available to serve the project from existing entitlements?	Yes	No	No	No	Yes
c) Result in the determination by the wastewater	Yes	No	No	No	Yes

Issues and Supporting Data Sources	Was Impact Analyzed in Prior Environmental Document(s)?	Does Vista Tulocay Project Involve New Significant Impacts or Substantially More Serve Impacts?	Any New Circumstances Involving New Significant Impacts or Substantially More Severe Impacts?	Any New Information Requiring New Analysis or Verification?	Prior Environmental Document's Mitigations Implemented or Address Impact?
treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?					
d) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Yes	No	No	No	Yes
e) Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?	Yes	No	No	No	Yes
f) Not comply with federal, state, and local statutes and regulations related to solid waste?	Yes	No	No	No	Yes

CHAPTER 4: ENVIRONMENTAL SETTING, IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES

This Chapter contains a comparative analysis of the potential impacts of the proposed Project with those identified in the Master Plan EIR.

The scope of the Master Plan EIR was established by the City of Napa during the "scoping process" after carrying out an Initial Study and considering comments from public agencies and the community regarding the Project. Based on that Initial Study, the City concluded that development pursuant to the Master Plan could cause a potentially significant impact on the environment, and prepared the Master Plan EIR.

As required by Section 15168 of the CEQA Guidelines, this Chapter examines the instant Project in the light of the Master Plan EIR to determine whether an additional environmental document must be prepared for this Project, or for any of its individual components. As explained in Chapter 2 above, the Project consists of the following individual applications, which are referred to collectively herein as the Project:

1. A Zoning Amendment to remove the requirement of on-street parking within North Drive and Entry Road.
2. A Design Review Permit to authorize the site plan, building plans and elevations for 282 residential units located within the Gasser North portion of the Gasser Master Plan Area.
3. A lot line adjustment to reconfigure the property line between two existing parcels that make up the project site.
4. A Development Agreement: This agreement would authorize the vesting of the current General Plan designation and Zoning Ordinance that allows up to 500 residential units, including the 282 units under the current Design Review Application and the up to 218 units which will be constructed as a second phase, which will be subject to future Design Review. The Development Agreement also provides for timing on construction permits and construction for the Project and timing on processing approvals of the remaining up to 218 of the 500 units contemplated in the Master Plan. It provides for payment mechanisms for certain fees, specifies that certain exactions will not be imposed on the second phase if accepted as part of the first phase, and applies the current regulations for a period of time in order to complete the Project and remaining 218 units contemplated in the Master Plan. It also provides the City with accelerated and specific housing fees for the entire 500 potential units consistent with the "alternative equivalent action."
5. An "alternative equivalent action" to satisfy the affordable housing inclusionary requirements of chapters 15 and 17 of the Napa Municipal Code. The proposed alternative equivalent action provides for the applicant's payment of two million dollars ($2 million) to the City either 1) within

one hundred eighty (180) days of the Effective Date of the Development Agreement by and Between the City of Napa and Vista Tulocay, LLC, or 2) prior to issuance of the first building permit for the Vista Tulocay project, which is in advance of when the applicable affordable housing impact fees would otherwise be payable. This alternative equivalent action satisfies all affordable housing obligations for both this Project and all further buildout of the Tulocay Village (i.e. "Phase II" buildout of up to 218 units) required by the Master Plan and the Master Plan's approved Alternative Equivalent Proposal (R2006 214).

6. Minor modifications to the Conditions of Approval of the Gasser Master Plan (and as modified by amendments effected under R2012-164.

Under CEQA Guidelines Section 15168(c)(2), if the City determines that approval and implementation of the Project would not result in any new or more severe environmental effects and no new mitigation measures are required, then the City may approve the Project as within the scope of the project covered by the Master Plan EIR, and no new environmental document will be required. Based on the following analysis, the City has determined that the potential environmental effects from the Project were identified and addressed in the Master Plan EIR, and so no new environmental document is required.

This Chapter analyzes the above-described Project in relationship to the environmental topics below:

Environmental Topics

The following sections in this chapter analyze the environmental topics as listed below:

4.A Aesthetics
4.B Air Quality and Greenhouse Gases
4.C Agricultural Resources
4.D Biological Resources
4.E Cultural Resources
4.F Geology and Soils
4.G Hazards and Hazardous Materials
4.H Hydrology and Water Quality
4.I Mineral Resources
4.J Land Use and Planning
4.K Noise and Vibration
4.L Population and Housing
4.M Recreation and Open Space
4.N Transportation and Traffic
4.O Utilities and Service Systems

Each of the above categories is addressed in the following subsections of this Chapter 4. A table is provided at the beginning of each subsection below showing the conclusions of the analysis in that subsection. The discussion following each table sets forth the analysis underlying the conclusions in the table, and also provides information regarding policies that are included in the Master Plan that mitigate the potential impacts identified in the Master Plan EIR and that would apply to the proposed Project. These discussions may also list additional, related General Plan and Master Plan policies and refer to other relevant evidence to demonstrate consistency of the proposed Project with the Master Plan and to

support the conclusions set forth in the tables.

Project Information for Comparative Analysis

The Project is within the scope of the development contemplated by the Master Plan and evaluated in the Master Plan EIR for the following reasons:

- All of the Project applications apply to property that is located entirely within the Gasser Master Plan District zone and was part of the Master Plan area evaluated in the Master Plan EIR.

- None of the Project applications, including but not limited to the Development Agreement application as described in Chapter 2, seeks or would allow development beyond what was analyzed in the Master Plan EIR.

- The Major Design Review application applies to 282 residential units located entirely within the Master Plan areas designated for residential uses. The 282 units that are the subject of the Major Design Review application are within the density restrictions of the approved Master Plan, as it was evaluated in the Master Plan EIR, and conform to the Master Plan requirements in all respects.

- The proposed Lot Line Adjustment would relocate the property line between two parcels (APN 046-190-065 & 066) that comprise the entire existing project site, and would not change the overall boundaries of the Master Plan. The reconfigured property line would coincide with the boundary between Phase 1 and Phase 2 of the proposed development. Proposed Parcel 1 will be 8.27 acres in size and comprise the area of Phase 2. This parcel will take access from the main access road that will be stubbed at the northern boundary of the parcel. Proposed Parcel 2 will be 12.65 acres in size and will be developed with the 282 units proposed by this application. Municipal Code Section 16.12.040.A provides that "[a] Lot Line Adjustment map may be submitted and approved between four or fewer parcels whereby land taken from one parcel is added to an adjoining parcel and does not create a greater number of lots than originally existed if each of the proposed lots meets all the requirements of local building and zoning ordinances." The proposed Lot Line Adjustment is comprised of two parcels and therefore is consistent with the criteria for approval. The new lots conform to all applicable zoning standards of the MP G4, Tulocay Village District.

- The proposed modifications to previously-imposed Conditions of Approval adjust the timing of the implementation of the conditions, and correct the identity of the responsible agency. These changes apply to implementation of certain traffic and water improvements. Because the changes do not alter the required mitigation, and timing has been specified to the Vista Tulocay development, the changes are consistent with the Master Plan. The proposed changes, along with the conditions of approval, are listed on Appendix A.

The Project is more fully described in Chapter 2. Rather than repeat the information in each environmental topic discussion, this summary and the description in Chapter 2 are used for the comparative analysis in this Chapter.

Mitigation Measures

Chapter 5 contains the list of Mitigation Measures from the Master Plan EIR. Those Mitigation Measures are the measures referenced in the discussion in this Chapter, which apply to the entire Master Plan development and would be implemented in connection with each of the instant Project approvals, as required by the Master Plan EIR. The analysis in this Chapter 4 should be read in reference to the Mitigation Measures citied herein and listed in Chapter 5.

Summary of Conclusions

As required by Section 15168(c) of the CEQA Guidelines, the Project, including each of its component applications, was examined and compared to the analysis in the Master Plan EIR to determine whether the Project is within the scope of the development contemplated by the Master Plan, based on the criteria set forth in Section 15162 of the CEQA Guidelines. Based on this review and as detailed below, the City has made the following determinations:

- Each of the Project's component applications is a "subsequent activity in the program" evaluated in the Master Plan EIR, as that phrase is used in Section 15168(c) of the CEQA Guidelines, and would not result in any new significant environmental effects.

- Approval and implementation of the Project (including all of the component applications) would not require or result in any substantial changes to the project evaluated in the Master Plan EIR that would require major revisions to the Master Plan EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

- There have been no substantial changes with respect to the circumstances under which the project evaluated in the Master Plan EIR is being undertaken which require major revisions to the Master Plan EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

- No new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the Master Plan EIR was certified as complete, shows any of the following:

    - The instant Project will have one or more significant effects not discussed in the Master Plan EIR;

- Significant effects previously examined will be substantially more severe than shown in the Master Plan EIR;

- Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project evaluated in the Master Plan EIR, but the project proponents decline to adopt the mitigation measures or alternatives; or

- Mitigation measures or alternatives which are considerably different from those analyzed in the Master Plan EIR would substantially reduce one or more significant effects on the environment, bu the project proponents decline to adopt the mitigation measure or alternative.

Therefore, the Project would not result in any new or more severe environmental impacts that were not previously analyzed and disclosed in the Master Plan EIR, and no further environmental analysis is required. Any minor changes from the EIR analysis are included in the specific discussion of the environmental topics in this chapter.

4.A - Aesthetics

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
AESTHETICS. *Would the project:*				
a. Conflict with the City goals and policies related to visual quality, or other applicable aesthetic or visual policies or standards?				X
b. Significantly alter the existing natural viewsheds, including changes in natural terrain or vegetation?				X
c. Significantly change the existing visual quality of the region or eliminate significant visual resources?				X
d. Significantly increase light and glare in the project vicinity?				X
e. Significantly reduce sunlight or introduce shadows in areas used extensively by the public?				X

The Project was examined and compared to the analysis in the Master Plan EIR as it pertains to visual resources to determine whether the Project is within the scope of the development contemplated by the Master Plan and whether it could result in new effects that were not identified and addressed in the Master Plan EIR. Based on this review and as detailed below, it was determined that the Project is within the scope of the Master Plan development program and would not result in any new significant environmental effects relating to aesthetics.

Because the development under the Master Plan would change the character of the area from a relatively large open space to a development site, the Master Plan EIR found the Aesthetic impacts to be significant and unavoidable impacts. No feasible mitigation measures were identified to reduce the impacts to a less –than-significant level. In Resolution R2006212 the City Council of the City of Napa issued, pursuant to CEQA Guidelines Section 15093, a Statement of Overriding Considerations. It identified specific economic, social and other considerations that render the unavoidable significant adverse environmental effects acceptable. The Statement of Overriding Considerations considered the aesthetic related impacts of the proposed Master Plan, which were discussed in Section 4.2 of the EIR. The EIR identified the mitigation measures to reduce the impacts; however, despite implementation of the identified mitigation, significant unavoidable impacts remain. The impacts are overridden by the Master Plan's benefits and jurisdictional limitations as set forth in the Statement of Overriding Considerations. Having considered the unavoidable adverse impacts of the Master Plan, the City determined that all feasible mitigation has been adopted to reduce or avoid the potentially significant impacts identified in the Master Plan EIR and that no additional feasible mitigation was available to further reduce significant impacts. The City found that economic, social, and other considerations of the Master Plan outweighed the unavoidable adverse aesthetic impacts. The City made a finding that it had balanced the benefits of the Master Plan against its unavoidable environmental impacts and indicated its willingness to accept those impacts.

The Project would be designed and constructed in a manner that is consistent with the development analyzed in the Master Plan EIR and approved by the Master Plan. As such, the Project would not create new or greater impacts to aesthetics that were not disclosed in the Master Plan EIR or propose changes that require revisions to that EIR. In addition, no substantial changes with respect to circumstances under which the Project is undertaken or the discovery of new important information has occurred since the Master Plan EIR was completed and certified that would require revisions to the EIR. Therefore, the Project would not result in any new or more severe impacts with respect to aesthetics that were not previously analyzed and disclosed in the Master Plan EIR, and no further environmental analysis is required.

As explained below, the Project would not result in any new environmental effects relating to aesthetics that were not identified and addressed in the Master Plan EIR.

a) The Project would not conflict with the City goals and policies related to visual quality, or other applicable aesthetic or visual policies or standards.

The Master Plan contains standards and design guidelines applicable to development projects located within the Planning Area. The Major Design Review Application filed in 2014 included a detailed analysis of the Project's conformance to those Master Plan standards and design guidelines applicable to the Project. Ultimately, conformance with the Master Plan standards and guidelines are determined by the Planning Commission for the City of Napa.

The conformance of the Project's design with the Master Plan standards and guidelines includes:

- Conformance with City Zoning regulations, including height bulk and scale regulations.
- The Project accents the primary entrance into the Project site.
- The Project will feature clean modern lines, simple forms and high quality, contemporary materials.
- The design of the Project is built around a modern style using contemporary lines and materials. The design features clean horizontal and vertical lines and strongly grouped horizontal forms. The primary exterior corners of the buildings are visually opened up with the use of glass. This visually lightens up the mass of the building.
- The Project is designed to comply with Napa's High Performance Building Ordinance, and designed to California Green Building Standards. The Project will feature lighting control systems and the use of daylighting where possible. Energy Star compliant roofing materials will be also featured.

With incorporation of these features, the Project would not conflict with the City goals and policies related to visual quality, or other applicable aesthetic or visual policies or standards. However, the Master Plan EIR found the Aesthetic impacts to be significant and unavoidable impacts. No feasible mitigation measures were identified to reduce these impacts to a less-than-significant level. In Resolution R2006212 the City Council of the City of Napa issued, pursuant to CEQA Guidelines Section 15093, a Statement of Overriding Considerations. It identified specific economic, social and other considerations that render the unavoidable significant adverse environmental effects acceptable. The Statement of Overriding Considerations considered the aesthetics related impacts of the proposed Master Plan, which were discussed in Section 4.2 of the Master Plan EIR. The Master Plan EIR identified the mitigation measures to reduce the impacts; however, despite implementation of the identified mitigation, significant unavoidable impacts remain. The impacts are overridden by the Master Plan's benefits and jurisdictional limitations as set forth in the Statement of Overriding Considerations. Having considered the unavoidable adverse impacts of the Master Plan, the City determined that all feasible mitigation has been adopted to reduce or avoid the potentially significant impacts identified in the Master Plan EIR and that no additional feasible mitigation was available to further reduce significant impacts. The City found that economic, social, and other considerations of the Master Plan outweighed the unavoidable adverse aesthetic impacts. The City made a finding that it had balanced the benefits of the Master Plan against its unavoidable environmental impacts and indicated its willingness to accept those impacts.

b) The Project would not significantly alter the existing natural viewsheds, including changes in natural terrain or vegetation.

The Project site was undeveloped at the time the Master Plan was approved. As described in Ch. 2, there is natural and modified terrain, and vegetation on the Project site, which is largely open space. The Project adheres to the requirements of the Master Plan Design Guidelines, including height limit and appropriate massing. Overall, the Design Guidelines require the new development to provide quality materials and design in order to respond to the surrounding context.

Although views would be altered by the eventual build out of the Project, resulting in various view corridors appearing more densely built out, no scenic views or vistas would be substantially or adversely affected. Therefore, the Project would not significantly alter existing natural viewsheds or change natural terrain or vegetation any more than as compared to the analysis in the EIR.

However, the EIR found these aesthetic impacts to be significant and unavoidable impacts. No feasible mitigation measures were identified to reduce these impacts to a less-than-significant level. In Resolution R2006212 the City Council of the City of Napa issued, pursuant to CEQA Guidelines Section 15093, a Statement of Overriding Considerations. It identified specific economic, social and other considerations that render the unavoidable significant adverse environmental effects acceptable. The Statement of Overriding Considerations considered the aesthetic related impacts of the proposed Master Plan, which were discussed in Section 4.2 of the Master Plan EIR. The Master Plan EIR identified the mitigation

measures to reduce the impacts; however, despite implementation of the identified mitigation, significant unavoidable impacts remain. The impacts are overridden by the Master Plan's benefits and jurisdictional limitations as set forth in the Statement of Overriding Considerations. Having considered the unavoidable adverse impacts of the Master Plan, the City determined that all feasible mitigation has been adopted to reduce or avoid the potentially significant impacts identified in the Mater Plan EIR and that no additional feasible mitigation was available to further reduce significant impacts. The City found that economic, social, and other considerations of the Master Plan outweighed the unavoidable adverse aesthetic impacts. The City made a finding that it had balanced the benefits of the Master Plan against its unavoidable environmental impacts and indicated its willingness to accept those impacts.

Because the project is within the Master Plan area and is designed within the requirements of the approved Master Plan zoning regulations and consistent with the Master Plan guidelines as analyzed in the Master Plan EIR, it is within the scope of the Master Plan EIR. As such, the Project would not significantly alter existing natural viewsheds beyond what was considered in the Master Plan EIR.

c) The Project would not significantly change the existing visual quality of the region or eliminate significant visual resources.

The Master Plan EIR evaluated impacts to scenic vistas. It found that since there are no scenic views from the Project site to the west, south or east, there would be no impact to views in those directions. Although there are views of the hills to the northwest from the Project site, the proposed Master Plan would have no significant impact on these views since they would be maintained at various points throughout the site. Impacts to scenic vistas would be less-than-significant.

It also found that impacts related to views to the site are considered less-than-significant.

The Master Plan EIR also evaluated scenic resources. It found that there are no scenic resources, such as rock outcroppings or historic buildings, on the Project site, and there are no State scenic highways in Napa County from which to view such resources. As such, it found the Master Plan would have a less-than-significant impact on scenic resources visible from a State scenic highway.

The Master Plan EIR also evaluated the site character. It found that although the proposed development would alter the site's existing physical character, neighboring commercial development at the South Napa Marketplace makes the conversion of Gasser South to a primarily commercial area a logical and orderly progression in the transformation of remaining vacant parcels in this portion of the city. Similarly, neighboring residential uses across Oil Company Road, and the existing commercial uses along Soscol Avenue, makes the conversion of Gasser North to residential and mixed-use commercial/office/residential uses a logical progression for that part of the Project site.

Uses similar to those proposed are anticipated in the Soscol Gateway Vision. The General Plan land use designation map also anticipates Mixed Use development on the site. Thus the proposed land uses in the Master Plan conform to the general development envisioned in existing City plans for the area.

The proposed Project would be subject to considerable design review to assure that the final development complies with the City's key design goals of integrating the urban environment with the natural environment, encouraging attractive, well-located commercial development, and assuring high quality, well designed housing that represents the neighborhood character.

Although development of the site was anticipated and would be subject to design review because the Project would result in a change of land use on a relatively large area from vacant to urban residential and commercial uses, the Project's impact on site character is considered significant and unavoidable.

However, the Master Plan EIR found the aesthetic impacts to be significant and unavoidable impacts. No feasible mitigation measures were identified to reduce these impacts to a less-than-significant level. In Resolution R2006212 the City Council of the City of Napa issued, pursuant to CEQA Guidelines Section 15093, a Statement of Overriding Considerations. It identified specific economic, social and other considerations that render the unavoidable significant adverse environmental effects acceptable. The Statement of Overriding Considerations considered the aesthetic related impacts of the proposed Master Plan, which were discussed in Section 4.2 of the Master Plan EIR. The Master Plan EIR identified the mitigation measures to reduce the impacts; however, despite implementation of the identified mitigation, significant unavoidable impacts remain. The impacts are overridden by the Master Plan's benefits and jurisdictional limitations as set forth in the Statement of Overriding Considerations. Having considered the unavoidable adverse impacts of the Master Plan, the City determined that all feasible mitigation has been adopted to reduce or avoid the potentially significant impacts identified in the Master Plan EIR and that no additional feasible mitigation was available to further reduce significant impacts. The City found that economic, social, and other considerations of the Master Plan outweighed the unavoidable adverse aesthetic impacts. The City made a finding that it had balanced the benefits of the Master Plan against its unavoidable environmental impacts and indicated its willingness to accept those impacts.

Because the project is within the Master Plan area and is designed within the requirements of the approved Master Plan zoning regulations and consistent with the Master Plan guidelines as analyzed in the Master Plan EIR, it is within the scope of the Master Plan EIR. As such, the Project would not significantly alter the existing regional visual quality or eliminate significant visual resources beyond what was analyzed in the Master Plan EIR.

d) The Project would not significantly increase light and glare in the Project vicinity.

The Master Plan EIR evaluated whether implementation of the Master Plan would significantly increase light and glare. It found the proposed Master Plan would result in development that creates new sources of light. However, the site is surrounded by urban uses to the north, east, and south and is already

partially illuminated at night by lighting from these neighboring properties and streets. Although the proposed Master Plan would result in development requiring lighting, particularly the theater and its associated parking lot, potential impacts would be less-than-significant for two reasons. First there are no sensitive receptors for light and glare, such as homes or hospitals, in the immediate vicinity of the area. The orientation of the proposed theater and commercial uses on Gasser South towards Imola Avenue, as proposed, would be expected to block most of the theater signage lighting form the proposed Community Servicing Facilities. Second, lighting would conform to the requirements of the SCDG and be in accordance with Illuminating Engineers Society standard practice. Conformance with these standards would minimize potential impacts, which are considered less-than-significant.

The Master Plan EIR set forth mitigation measures to further reduce light and glare even though no light and glare impacts were identified. The Project would be required to comply with the following mitigation measures, as specified in the City of Napa's Policy Resolution 27 (PR 27):

- All new lighting on private property shall be designed to eliminate direct light spilling onto adjacent residential properties. (PR 27 Mitigation Aesthetics I.1.)

- Low-level lighting shall be utilized in any parking area(s) as opposed to elevated high-intensity light standards. (PR 27 Mitigation Aesthetics I.2.)

The Project has incorporated these measures into its design. Because the Project incorporated the above Master Plan measures, the Project will not significantly increase light and glare in the Project vicinity.

e) *The Project would not significantly reduce sunlight or introduce shadows in areas used extensively by the public.*

The area is currently undeveloped and is not used by the public. Therefore, there is no reduction of light and air compared to existing conditions. Once built, the buildings are small in scale (3-stories) and spread in a manner so as the residents will have extensive access to light and air within the development. Therefore, the Project would not significantly reduce in areas used by the public.

Mitigating Policies and implementing programs:

The Master Plan EIR included mitigation measures relating to aesthetics. However, the Master Plan EIR found the aesthetic impacts to be significant and unavoidable impacts. No feasible mitigation measures were identified to reduce these impacts to a less-than-significant level. In Resolution R2006212 the City Council of the City of Napa issued, pursuant to CEQA Guidelines Section 15093, a Statement of Overriding Considerations. It identified specific economic, social and other considerations that render the unavoidable significant adverse environmental effects acceptable. The Statement of Overriding Considerations considered the aesthetic related impacts of the proposed Master Plan, which were discussed in Section 4.2 of the Master Plan EIR. The Master Plan EIR identified the mitigation measures

to reduce the impacts; however, despite implementation of the identified mitigation, significant unavoidable impacts remain. The impacts are overridden by the Master Plan's benefits and jurisdictional limitations as set forth in the Statement of Overriding Considerations. Having considered the unavoidable adverse impacts of the Master Plan, the City determined that all feasible mitigation has been adopted to reduce or avoid the potentially significant impacts identified in the Master Plan EIR and that no additional feasible mitigation was available to further reduce significant impacts. The City found that economic, social, and other considerations of the Master Plan outweighed the unavoidable adverse aesthetic impacts. The City made a finding that it had balanced the benefits of the Master Plan against its unavoidable environmental impacts and indicated its willingness to accept those impacts.

The Project shall also comply with measures to reduce light and glare under City of Napa Policy Resolution. (PR 27, including Mitigation Aesthetic I.1 and I.2.)

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant aesthetic impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant aesthetic impact.

4. There is no new information of substantial importance showing that significant aesthetic impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.B - Air Quality and Greenhouse Gases

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
AIR QUALITY AND GREENHOUSE GASES. *Would the project:*				
a. Conflict with or obstruct implementation of the applicable air quality plan.				X
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.				X
c. Result in a cumulatively considerable net increase of any nonattainment pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).				X
d. Expose sensitive receptors to substantial pollutant concentrations.				X
e. Create objectionable odors affecting a substantial number of people.				X
f. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.				N/A
g. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of greenhouse gases.				N/A

The Project was examined and compared to the analysis in the Master Plan EIR as it pertains to air quality and greenhouse gases resources to determine whether the Project is within the scope of the development contemplated by the Master Plan and whether it could result in new effects that were not identified and addressed in the Master Plan Program EIR. Based on this review and as detailed below, the Project is within the scope of the Master Plan development program and would not result in any new significant environmental effects relating to air quality and greenhouse gases.

The Project would be designed and constructed in a manner that is consistent with the development analyzed in the EIR. As such, the Project would not create new or greater impacts to air quality and greenhouse gases that were not disclosed in the Master Plan EIR or propose changes that require revisions to that EIR. In addition, no substantial changes with respect to circumstances under which the Project is undertaken or the discovery of new important information has occurred since the Master Plan EIR was completed and certified that would require revisions to the Master Plan EIR. Therefore, the Project would not result in any new or more severe impacts with respect to air quality and greenhouse gases that were not previously analyzed and disclosed in the Master Plan EIR, and no further environmental analysis is required.

As explained below, the Project would not result in any new environmental effects relating to air quality and greenhouse gases that were not identified and addressed in the Master Plan EIR.

The Master Plan EIR utilized the format that the Bay Area Air Quality Control Management (BAAQMD) had established to determine Project impacts from the Master Plan development, consistent with the

Appendix G checklist, for its analysis of air quality impacts related to the Master Plan. The Master Plan EIR followed the following format to determine the impacts from development facilitated by Master Plan on air quality: □

1. Construction: □The analysis of construction impacts emphasizes the implementation of effective and comprehensive control measures rather than quantification of emissions. Under their analysis, PM10 is the pollutant of greatest concern from construction activities. The Master Plan EIR found that if appropriate construction controls are implemented, air pollutant emissions for construction activities would be considered less-than-significant. □

2. Operations: □Under the Master Plan EIR's analysis, Master Plan build-out could cause a significant air quality impact if it were to result in:

- O3 precursor emissions (ROG and NOx) and PM10 emissions from direct and indirect sources (non-typical construction) that exceed the thresholds recommended by the BAAQMD. The BAAQMD recommends a threshold of 80 pounds per day or 15 tons per year for direct and indirect sources of ROG, NOx, and PM10.
- Emissions of CO that cause a projected exceedance of the ambient carbon monoxide state standard of 9.0 ppm for 8-hour averaging period. Additionally, for CO, an increase of 550 pounds per day would be considered significant if it leads to a possible local violation of the carbon monoxide standards (i.e. if it creates a "hot spot").
- Generally, if a project results in an increase in ROG, NOx, or PM10 emissions, of more than 80 pounds per day or 15 tons per year, then it would also be considered to contribute substantially to the significant cumulative effect.

3. Consistency with Clean Air Planning Efforts: Under the Master Plan EIR, the analysis determines the consistency between the plan's projected population growth and vehicle miles traveled (VMT) to the projections in the Clean Air Plan (CAP). Consistency also can be demonstrated by assessing whether the plan implements all of the applicable CAP transportation control measures, and assessing whether the plan provides buffer zones around potential sources of odors, toxics, and accidental releases.

Each Environmental Issue Area listed in the Appendix G Checklist above is described within the impacts analysis within the Master Plan EIR's format as presented below.

a) Construction Impacts

The Master Plan EIR discussed that buildout of the Master Plan projects would involve construction over several years, and this construction period would likely include initial grading of the sites and then many small and medium size construction projects that could result in different air quality impacts based on their size, duration and proximity to sensitive receptors. The Master Plan EIR found that construction activities would generate pollutant emissions from the following construction activities: grading,

construction worker travel to and from the construction sites, delivery and hauling of construction supplies and debris to and from the Project site, and fuel combustion by on-site construction equipment. These construction activities would temporarily create emissions of dusts, fumes, equipment exhaust and other air contaminants. The Master Plan EIR concluded that this would be a potentially significant impact, Impact AQ-1: Construction activity during buildout of the Project would generate air pollutant emissions that could expose sensitive receptors to substantial pollutant concentrations.

The Master Plan EIR concluded that implementation of Mitigation Measure AQ-1 would reduce potential construction related air quality impacts to a less-than-significant level because the measures listed under Mitigation Measure AQ-1 implements the appropriate and feasible particulate matter control measures to reduce the generation of air pollutants.

The Project's construction is within the construction impacts to air quality analyzed in the Master Plan EIR. Because the Project is required to implement Mitigation Measure AQ-1, its construction related air quality impacts will be mitigated to a less-than-significant level.

b) Operational Emissions

The Master Plan EIR discussed that buildout of the proposed Master Plan projects would produce new auto-mobile trips, generating emissions of criteria air pollutants, which could affect both regional and local air quality. The traffic study predicts an addition of 17,500 trips at full buildout. In the Master Plan EIR, future changes to air quality were predicted using computer models.

The Master Plan EIR found that the CO emissions from traffic generated by the improvments authorized by the Master Plan would be the pollutant of greatest concern at the local level. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of carbon monoxide. The screening analysis indicated that modeled existing 8-hour CO concentrations were currently below CAAQS. Thus, the Master Plan EIR concludes that this impact on local air quality resulting from the Project is considered to be less-than-significant. Because the Project's development is within the scope of analysis of the Master Plan EIR, its impacts are considered less-than-significant for CO emissions from Traffic.

The Master Plan EIR also analyzed the Master Plan's impacts on regional air quality, including emissions of O3 precursor pollutants (i.e., reactive organic gases (ROG) and nitrogen oxides (NOx)) and small particulate matter (i.e., PM), which can affect air quality throughout the Bay Area. To evaluate the Project effects on regional air quality, emissions were predicted. These emissions were predicted to be above the significance thresholds established by the BAAQMD, and therefore, would be considered potentially significant. Impact AQ-2: the Project would generate new emissions that would affect long-term air quality. However, the Master Plan EIR found that a majority of the traffic emissions generated by full buildout of the Master Plan would be produced by traffic associated with retail aspects of the development, not the residential components. The Master Plan EIR found that this adverse impact will be

reduced, but not fully mitigated through implementation of mitigation measures AQ-1 and AQ-2.

The Master Plan EIR also analyzed stationary sources of air quality pollutants, specifically residential wood smoke, which it found to affect long-term air quality. In order to reduce these impacts, the EIR, as part of Mitigation Measure AQ-1, required the new residential units to include only clean-burning U.S. EPA- certified wood burning devices, pellet-fueled stoves, or natural gas fire- places. This would reduce a substantial portion of non-transportation PM emissions during wintertime, when PM concentrations can be highest. This would reduce wintertime emissions of PM from woodsmoke by 90 percent or greater.

The Master Plan EIR also found that the residential development associated with the Master Plan would not be located near major sources or air pollutant emissions (e.g., power plants or freeways) or odors (e.g., wastewater treatment plants). Widespread impacts from existing sources of air toxics or odors are not anticipated for proposed new residences or other sensitive receptors. The Master Plan EIR found that the Master Plan would not place new sources of odors or air toxics near existing or future sensitive receptors or place new sensitive receptors near sources of odors or air toxics. As a result, the impact is considered less-than-significant.

The Master Plan EIR also disclosed that approximately 30 percent of the reactive organic gasses emissions would be associated with consumer product use (e.g., household solvents, paints, hairspray, etc.) in new residences. The Master Plan EIR concluded that the Project cannot implement mitigation measures to control those emissions.

The measures would not reduce the air quality impact entirely, and the impact would remain significant and unavoidable, even with full effectiveness of the above-mitigation measures AQ-1 and AQ-2. Because the development under the Master Plan would not be mitigated to a less-than-significant level, the Master Plan EIR found the Aesthetic impacts to be significant and unavoidable impacts. No feasible mitigation measures were identified to reduce theses impacts to a less-than-significant level. In Resolution R2006212 the City Council of the City of Napa issued, pursuant to CEQA Guidelines Section 15093, a Statement of Overriding Considerations. It identified specific economic, social and other considerations that render the unavoidable significant adverse environmental effects acceptable. The Statement of Overriding Considerations considered the air quality related impacts of the proposed Master Plan, which were discussed in Section 4.5 of the Master Plan EIR. The Master Plan EIR identified the mitigation measures to reduce the impacts; however, despite implementation of the identified mitigation, significant unavoidable impacts remain. The impacts are overridden by the Master Plan's benefits and jurisdictional limitations as set forth in the Statement of Overriding Considerations. Having considered the unavoidable adverse impacts of the Master Plan, the City determined that all feasible mitigation has been adopted to reduce or avoid the potentially significant impacts identified in the Master Plan EIR and that no additional feasible mitigation was available to further reduce significant impacts. The City found that economic, social, and other considerations of the Master Plan outweighed the unavoidable adverse air quality impacts. The City made a finding that it had balanced the benefits of the Master Plan against its

unavoidable environmental impacts and indicated its willingness to accept those impacts.

Because the Project is within the Master Plan area, and because all air quality mitigation measures identified by the Master Plan EIR are applicable to the Project, all air quality impacts of the Project were previously identified, evaluated, and mitigated by the Master Plan EIR. The Project would not result in any new or more severe impacts with respect to air quality that were not previously analyzed and disclosed in the Master Plan EIR

c) Consistency with Clean Air Planning Efforts

The Master Plan EIR discussed the need for predicting future human activities, particularly vehicle activities that are related to air pollutant emissions. The Master Plan EIR discussed BAAQMD population projections made by the Association of Bay Area Governments and vehicle use trends provided by the Metropolitan Transportation Commission to formulate future air pollutant emission inventories. These projections are based on development estimates from cities and counties. The Master Plan EIR considered that the development that could occur under the Master Plan would generally constitute infill development, as the Project site is within an existing urbanized area. Because the Master Plan was anticipated in the City's General Plan and Soscol Gateway Vision, the Master Plan EIR found that it would not stimulate population growth not anticipated or accommodated by these plans. The Master Plan EIR found that the increase of approximately 1,325 residents also was well within ABAG's projected population growth for the City and within the City's General Plan growth. Therefore, the Master Plan EIR concluded that growth that would occur with the plan would be consistent with growth anticipated under the assumptions used by the regional agencies to prepare the Clean Air Plan and the Bay Area Ozone Strategy.

Master Plan EIR Table 4.5-6 discussed the extent to which the Project would conflict with a number of the relevant goals and policies in the City of Napa General Plan. The Master Plan EIR also discussed consistency of the Master Plan with relevant City policies and Transportation Control Measures (TCMs) related to clean air planning efforts. The Master Plan EIR found that the Project would require mitigation to avoid conflicts with the General Plan. The Project would result in development anticipated within clean air planning projections, but does not reasonably implement Transportation Control Measures. The Master Plan EIR concluded that implementation of Mitigation Measures AQ-1 and AQ-2 would reasonably implement transportation control measures, reducing this impact to a less-than-significant level.

Because the Project is within the Master Plan area, and because all air quality mitigation measures identified by the Master Plan EIR are applicable to the Project, all air quality impacts of the Project were previously identified, evaluated, and mitigated by the Master Plan EIR. The applicable Mitigation Measures discussed above would reduce these impacts to a less-than-significant level.

d) Greenhouse Gas Emissions

The analysis in Sections a, b and c, above addresses many of the Greenhouse Gas impacts from the development pursuant to the Master Plan, including the Project. The requirement that the potential environmental impact of greenhouse gas emissions be analyzed was added to the Guidelines: Effective March 18, 2010, the Guidelines were amended to address greenhouse gas emissions. (Guidelines, § 15064.4.) This was after certification of the Master Plan EIR. The amendment confirms that lead agencies retain the discretion to determine the significance of greenhouse gas emissions and should "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." (Guidelines, § 15064.4(a).) Thus, the Guidelines did not require analysis of greenhouse gas emissions at the time the 2006 the Master Plan was certified.

However, in California the potential environmental impact of greenhouse gas emissions has been known since the 1970's. In the late 1970's, the Federal Government began devoting serious attention to the possibility that carbon dioxide emissions associated with human activity could provoke climate change. In 1978, Congress enacted the National Climate Program Act, 92 Stat. 601, which required the President to establish a program to "assist the Nation and the world to understand and respond to natural and man-induced climate processes and their implications,"

By 2002, information about the potential impacts of greenhouse gases was widely known. The United Nations Framework Convention on Climate Change was established in 1992. The regulation of greenhouse gas emissions to reduce climate change impacts was extensively debated and analyzed throughout the early 1990s. The studies and analyses of this issue resulted in the adoption of the Kyoto Protocol in 1997. In the early and mid 2000s, GHG's and climate change were extensively discussed and analyzed in California. In 2000, SB 1771 established the California Climate Action Registry for the recordation of greenhouse gas emissions to provide information about potential environmental impacts.

Thus, information about the potential environmental impact of greenhouse gas emissions was known or could have been known at the time the 2006 EIR for the Master Plan was certified. Section 21166, subdivision (c) states an agency may not require a subsequent EIR unless "[n]ew information, which was not known and could not have been known at the time the [EIR] was certified as complete, becomes available." Since the potential environmental impact of greenhouse gas emissions does not constitute new information within the meaning of section 21166, subdivision (c), this Addendum does not analyze greenhouse gas emissions further.

Mitigating Policies and implementing programs:

The Project shall comply with the following mitigation measures and implementation procedures for the Master Plan EIR:

- Mitigation Measure AQ-1

- Mitigation Measure AQ-2

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant air quality and greenhouse gases impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant air quality and greenhouse gases impact.

4. There is no new information of substantial importance showing that significant air quality and greenhouse gases impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.C - Agricultural Resources

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
AGRICULTURAL RESOURCES. *Would the project:*				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.				X
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract.				X
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).				X
d. Result in the loss of forest land or conversion of forest land to non-forest use.				X
e. Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.				X

The Project site is not currently used as farmland and is not zoned for agricultural use. The proposed Project is surrounded by urban development and would not result in the conversion of farmland to non-agricultural use. Therefore, no impacts to agricultural resources would occur.

a) The Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

The Master Plan EIR excluded agricultural resources from its discussion because it previously determined the Plan would have no impact. The Master Plan Area, as with the majority of developed land in the City of Napa, is within an urban and built-up land area. Therefore, the Master Plan EIR found that Master Plan would not convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance to nonagricultural use. Because the Project is located within these urban lands within the Master Plan Area, it would not convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance to nonagricultural use.

b) The Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract.

The Master Plan Area, as with the majority of developed land in the City of Napa, is within urban and built-up land areas. Therefore, the Master Plan did not conflict with existing zoning for agricultural use,

or a Williamson Act contract; and would not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use. By excluding agricultural resources from evaluation because there were no impacts, the Master Plan EIR found that the Master Plan would have no impact on agricultural resources. Because the Project is located on urban designated lands within the Master Plan Area, not zoned for agriculture or under Williamson Act contract, it would not conflict with existing zoning for agricultural use or a Williamson Act contract, and would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use.

c) *The Project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).*

Because the Master Plan would not cause rezoning of forest land, timberland or timberland zoned Timberland Production, the Master Plan EIR excluded forest land impacts from its discussion. Because the Project is located on designated urban and built-up land in the Master Plan Area, it would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

d) *The Project would not result in the loss of forest land or conversion of forest land to non-forest use.*

Because the Master Plan would not result in the loss of forest land or convert forest land to non-forest use the EIR excluded forest land impacts from its discussion. Because Vista Tulocay is located within the Master Plan Area and does not contain any forest land, it would not result in the loss of forest land or convert forest land to non-forest use.

e) *The Project would not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.*

Because the Master Plan would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use, the Master Plan EIR excluded Farmland conversion impacts from its discussion. Because the Project is in the Master Plan Area, it would not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

General Plan and Master Plan Mitigating Policies and implementing programs:

There are no applicable mitigation measures or policies because neither the Master Plan nor the Project would have impacts on agricultural or timber resources.

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant land use and planning impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant land use and planning impact.

4. There is no new information of substantial importance showing that significant land use and planning impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.D - Biological Resources

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
BIOLOGICAL RESOURCES. *Would the project:*				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the CDFW or USFWS.				X
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS.				X
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.				X
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.				X
e. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.				X
f. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.				X
g. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved plan.				X

The Project was examined and compared to the analysis in the Master Plan EIR as it pertains to biological resources to determine whether the Project is within the scope of the development contemplated by the Master Plan, and whether it could result in new effects that were not identified and addressed in the Master Plan EIR. Based on this review and as detailed below, the Project is within the scope of the Master Plan development program and would not result in any new significant environmental effects relating to biological resources.

The Project would be designed and constructed in a manner that is consistent with the development analyzed in the Master Plan EIR. As such, the Project would not create new or greater impacts to biological resources that were not disclosed in the Master Plan EIR or propose changes that require revisions to that EIR. In addition, no substantial changes with respect to circumstances under which the Project is undertaken or the discovery of new important information has occurred since the Master Plan EIR was completed and certified that would require revisions to the Master Plan EIR. Therefore, the Project would not result in any new or more severe impacts with respect to biological resources that were

not previously analyzed and disclosed in the Master Plan EIR, and no future environmental documentation is required.

As explained below, the Project would not result in any new environmental effects relating to biological resources that were not identified and addressed in the Master Plan EIR.

a) The Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the CDFW or USFWS.

Based on existing site conditions and the established significance criteria, the Master Plan EIR found that the Master Plan had the potential to adversely impact certain special-status species. Specifically, it found that the Master Plan is not expected to affect any populations of special-status plant species. In addition, with the possible exception of the western pond turtle, loggerhead shrike and several species of raptors, special-status animal species are not expected to occur on the site and would not be adversely affected by implementation of the Master Plan development.

Regarding the potentially impacted species, it found that proposed construction activities near aquatic habitat, including restoration and enhancement of the existing seasonal wetlands, construction of new pump stations, and the potential Gasser Drive crossing of Tulocay Creek, could result in the loss of individual turtles or turtle nests unless adequate pre-construction measures are taken. This was considered to be a potentially significant impact. Loggerhead shrike and several species of raptors are known to forage in the site vicinity, and could establish nests in the future. No evidence of any nesting activity was observed during the field reconnaissance surveys, but new nests could be established in mature trees and dense scrub vegetation. Potential impacts on any nests in active use were considered to be a potentially significant impact. However, suitable foraging habitat for these species would remain in the flood plain terrace along the Napa River and lands to be permanently preserved on the site, and the loss of suitable foraging habitat converted to urban uses was considered to be a less-than-significant impact. The EIR also found a very remote possibility that California red-legged frog, steelhead and other special-status fish species could seasonally disperse into the lower segment of Tulocay Creek and could be impacted by construction activities at the creek. As a result, the Master Plan EIR concluded by recognizing these potentially significant impacts under Impact BIO-1: "Development allowed under the proposed project could affect a number of special-status species, including western pond turtle, several bird species, several fish species and possibly California red-legged frog, unless protective measures are taken to avoid and mitigate construction-related impacts and avoid and mitigate substantial habitat loss."

In order to mitigate for these potential impacts to special-status species, the Master Plan EIR identified Mitigation Measures BIO-1a through 1e. Implementation of these mitigation measures would reduce potential impacts on special-status species to a less-than-significant level. Limitations on construction timing, conduct of preconstruction surveys, and other measures would serve to avoid inadvertent take of

any special-status species considered to have a remote potential for occurrence on the site. Compliance with applicable state and federal laws pertaining to special-status species would be ensured prior to issuance of any grading or building permits by the City.

The Project is within the proposed development area analyzed in the Master Plan EIR. With implementation of the above-mentioned mitigation measures, the Project will not have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the CDFW or USFWS.

b) The Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS.

The Master Plan EIR discussed that the areas of remaining native natural communities on the site are of relatively recent origin and are generally not considered to represent sensitive natural community types, and that the freshwater marsh, seasonal wetlands and riparian scrub are all regulated under jurisdiction of the USACE, RWQCB and CDFW. All other potential sensitive natural community types (mostly oaks) are located on Gasser South.

Because the Project is located within the Gasser North area of the Master Plan area, and no other riparian habitat or sensitive community is identified in Gasser North, the Project will not have a substantial adverse effect on riparian habitat or other sensitive community.

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

The Master Plan EIR analyzed potential impacts to wetlands would include direct modifications to jurisdictional waters to accommodate roadway crossings and development, and indirect changes associated with the increased potential for erosion and water quality degradation. Potential erosion and degradation of the wetland and riparian habitat may result from increased urban runoff volumes and degraded water quality associated with proposed development. Proposed development could also magnify the volume of runoff and potential for urban pollutants, with perhaps the greatest potential damage resulting from sedimentation during the construction phase of the Project and from new non-point discharge of automobile by-products, fertilizers and herbicides. However, the Master Plan EIR concluded that implementation of adequate erosion control measures, and use of Best Management Practices would serve to address potential indirect impacts on wetlands and water quality, as discussed in the Section 4.4 of the Master Plan EIR, Hydrology and Water Quality.

The Master Plan EIR also found that aspects of the proposed Project could directly affect jurisdictional

wetlands and unvegetated waters on the site. These include the proposed Gasser Drive crossing of Tulocay Creek, installation of new pump stations, and the proposed restoration and enhancement of the seasonal wetlands on both the Gasser North and Gasser South properties. Proposed modifications to potential jurisdictional wetlands and waters could require authorization from the USACE, RWQCB and CDFW, depending on the characteristics of the affected feature and design of proposed improvements. These were considered to be a potentially significant impact under Impact BIO-3: Development associated with implementation of the proposed Project could affect areas of jurisdictional wetlands and other waters.

The Master Plan EIR found that implementation of Mitigation Measure BIO-3 would reduce potential impacts on jurisdictional waters to a less-than-significant level. The extent of wetlands and other waters would be confirmed with jurisdictional agencies, and adequately avoided or replaced and enhanced as part of proposed development improvements.

Because the Project is located within the Master Plan area and is designed consistent with the requirements of the approved Master Plan regulations and guidelines, as analyzed in the Master plan EIR, it is within the Scope of the Master Plan EIR. As such, the Project would not have substantial adverse impact on federally protected wetlands beyond what was analyzed within the Master Plan EIR.. Consistent with the Master Plan EIR, with the implementation of Mitigation Measures BIO-3, Vista Tulocay will not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.

d) The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The Master Plan EIR analyzed potential impacts to migratory corridors. It found that the Master Plan proposed would generally avoid locations with sensitive wildlife habitat, such as the seasonal wetlands and the Tulocay Creek alignment. Avoidance and minimization of potential impacts to sensitive wildlife habitat areas recommended above, such as potential jurisdictional wetlands and waters, dense riparian scrub, and mature trees, would generally serve to address potentially significant impacts on important wildlife habitat and movement corridors.

Under the Master Plan, the Project would wrap around the east, north and west sides of the northern seasonal wetland, extending to the north side of the Tulocay Creek corridor. The combination of intensive residential use, and the potentially restrictive fencing and pedestrian trail could curtail opportunities for terrestrial wildlife movement between the east bank of the Napa River and the northern wetlands on the site. Since a major component of the Master Plan was the enhancement of existing seasonal wetlands on the site, the Master Plan EIR found that isolating these features from the restored habitat along the banks of the Napa River could reduce their current values and limit their ultimate value to wildlife. Under the

Master Plan EIR, the Project's proposed Gasser Drive crossing of Tulocay Creek could also disrupt movement of wildlife along the creek corridor, unless designed to minimize disturbance to the channel bottom and allow for wildlife movement along the channel banks. Thus, the Master Plan EIR concluded that development associated with implementation of the Master Plan that would impact sensitive wildlife habitat features and obstruct the movement corridor were considered to be potentially significant impacts (Impact BIO-4).

The Master Plan EIR further found that restrictions on the extent of proposed development on the Project site would ensure that existing opportunities for wildlife movement between the seasonal wetlands would be preserved and the permanent wetlands and riparian habitat along the Napa River would be maintained, consistent with this Significance Criteria in the CEQA Guidelines. Design recommendations for the new bridge over Tulocay Creek also would ensure that this structure does not disrupt opportunities for movement of fish and wildlife within the creek corridor. The Master Plan EIR found that implementation of these measures, Mitigation Measure BIO-4a through 4c, would reduce potential impacts on migratory corridors and sensitive wildlife habitat features to a less-than-significant level.

Thus, because the Project is within the proposed development area analyzed within the EIR, and because the Master Plan EIR identified Mitigation Measures BIO-4a and 4c to mitigate any impacts to native wildlife, the Project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Implementation of Mitigation Measure 4b is only necessary to the extent that the Project is involved in any design recommendations for crossings over Tulocay Creek.

e) *The Project would not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.*

The Master Plan EIR analyzed the Master Plan development impacts to the quality of the environments related to habitat and populations within the context of sections a-d, above. Based on the analysis in the EIR described above in a through d, and with implementation of the mitigation measures required below, the Project will not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

f) *The Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*

The Master Plan EIR analyzed the Master Plan's potential conflicts with local ordinances and policies protecting biological resources. The Master Plan EIR found that the Master Plan development and its effects on biological and wetland resources could conflict with a number of relevant goals and policies in the City of Napa General Plan. These are listed in Table 4.7-5 of the Master Plan EIR. A detailed discussion of the potential impacts of the proposed Project was provided in the Master Plan EIR under Impacts BIO-1 through BIO-5, and the summarized in Table 4.7-5 of the EIR. This impact assessment addressed the issues raised under the relevant policies in the City of Napa General Plan such as protection of sensitive natural habitat, preservation of trees, and preventing the obstruction of wildlife movement corridors.

Where aspects of the Master Plan conflicted with relevant policies in the City of Napa General Plan, the Master Plan EIR considered them to be significant impacts under Impact BIO-5. Master Plan EIR Table 4.7-5 discussed the extent to which the Project and its effect on biological and wetland resources would conflict with any relevant goals and policies in the City of Napa General Plan. These General Plan goals and policies tend to be fairly broad, but basically call for protection of sensitive biological and wetland resources. The Master Plan EIR found that the Master Plan mitigation required by the EIR would ensure that the Project's impacts on biological and wetland resources are reduced to a less-than-significant level and that the Project therefore would be consistent with applicable General Plan policies. The Master Plan EIR concluded that implementation of Mitigation Measures BIO-1a, BIO-1b, BIO-1c, BIO-d, BIO-1e, BIO-2, BIO-3, BIO-4a, and BIO-4b would reduce potential biological impacts of the Master Plan development to a less-than-significant level, and that no additional mitigation measures are required to ensure compliance with applicable goals and policies in the City of Napa General Plan.

The Project is within the development area analyzed within the Master Plan EIR. With the implementation of Mitigation Measures applicable to the Project (BIO-1a, BIO-1b, BIO-1c, BIO-d, BIO-1e, BIO-3, BIO-4a and 4c), the Project does not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

g) The Project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved plan.

Consistent with the Master Plan EIR findings, the Project is not located within any habitat conservation or natural community conservation plan or other plan. Therefore, no conflict with any habitat conservation or natural community conservation plan would result.

Mitigating Policies and implementing programs:

Vista Tulocay shall comply with the following mitigation measures:

- BIO1a-e

- BIO3
- BIO4a and c
- Implementation of Mitigation Measure BIO4b is only necessary to the extent that improvements are installed over or near Tulocay Creek.

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant biological resources impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant biological resources impact.

4. There is no new information of substantial importance showing that significant biological resources impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.E – Cultural Resources

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
CULTURAL RESOURCES. *Would the project:*				
a. Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5.				X
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5.				X
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.				X
d. Disturb any human remains, including those interred outside of formal cemeteries.				X

According to the Cultural Resources assessment from the EIR, Gasser North plan site, including the Project site, was investigated by the Sonoma State University Cultural Resource Center in 1995 as part of the South Napa Marketplace EIR. That investigation found no evidence of archaeological resources. The EIR assessment also found that the Master Plan site, inclulding the Project site, was further investigated as part of the Napa River Flood Protection Project EIR, completed in March 1999. That investigation determined that there are no structures of historical significance on the site. Therefore, the Master Plan EIR excluded impacts to Cultural Resources from its analysis.

a) The Project would not cause a substantial adverse change in the significance of a historical resource as defined in 15064.5.

Because the Cultural Resources assessment from the EIR concluded there were no historical resources on the Project site, as explained above, and the Project is located in the same area as described in the assessment, the Project would not cause a substantial adverse change in the significance of an historical resource because no such resources are present or impactful by the Project.

b) The Project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5.

Because the Cultural Resources assessment from the EIR concluded there were no archeological resources on the Project site, as explained above, and the Project is located in the same area as described in the assessment, the Project would not cause a substantial adverse change in the significance of an archeological resource because no such resources are present or impactful by the Project.

c) The Project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Because the Cultural Resources assessment from the EIR concluded there were no historical resources on the Project site, as explained above, and the Project is located in the same area as described in the assessment, the Project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature because no such feature or resource is located on site or impacted by the Project.

d) The Project would not disturb any human remains, including those interred outside of formal cemeteries.

Based on the previous site investigations and construction, as described in the Master Plan EIR, and there is no evidence of any cultural resources, including human remains, within the Master Plan area, and because the Project is within the Master Plan area, the Project would not disturb any cultural resources, including human remains.

Master Plan Mitigating Policies and implementing programs:

There are no applicable mitigation measures or policies.

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. As the project site does not contain any identified cultural resources, the proposed Project will not result in new significant cultural resources impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. As the project site does not contain any identified cultural resources, the proposed Project will not result in an increase in the severity of a previously identified significant cultural resources impact.

4. As the project site does not contain any identified cultural resources, no new or differnet mitigation meaures are required.

4.F – Geology and Soils

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
GEOLOGY AND SOILS. *Would the project:*				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault ii) Strong seismic ground shaking iii) Seismic related ground failure, including liquefaction iv) Landslides				X
b. Result in substantial soil erosion or the loss of topsoil.				X
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off site landslide, lateral spreading, subsidence, liquefaction or collapse.				X
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.				X
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.				X

The was examined and compared to the analysis in the Master Plan EIR as it pertains to geology and soils resources to determine whether the Project is within the scope of the development contemplated by the Master Plan and whether it could result in new effects that were not identified and addressed in the Master Plan EIR. Based on this review and as detailed below, the Project is within the scope of the Master Plan development program and would not result in any new significant environmental effects relating to geology and soils.

The Project would be designed and constructed in a manner that is consistent with the development analyzed in the Master Plan EIR. As such, the Project would not create new or greater impacts to geology and soils that were not disclosed in the Master Plan EIR or propose changes that require revisions to that EIR. In addition, no substantial changes with respect to circumstances under which the Project is undertaken or the discovery of new important information has occurred since the Master Plan EIR was completed and certified that would require revisions to the EIR. Therefore, the Project would not result in any new or more severe impacts with respect to geology and soils that were not previously analyzed and disclosed in the Master Plan EIR, and no further environmental analysis is required.

As explained below, the Project would not result in any new environmental effects relating to geology and soils that were not identified and addressed in the Master Plan EIR.

a) The Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

The Master Plan EIR analyzed the development, which would result in increased population and development in a region susceptible to seismic risks and hazards. These involve:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.

The faults most susceptible to earthquake rupture are active faults, which are faults that have experienced surface displacement within the last 11,000 years. The Master Plan EIR discussed that during large earthquakes ground rupture can occur along fault traces. Ground rupture associated with earthquakes generally occurs along faults that have been recently active. Active faults are not known to be present on the site. However, the nearest active fault (West Napa) is approximately four miles away. On August 24, 2014, Napa experienced an earthquake measuring a magnitude 6.0. The epicenter was located south of Napa, approximately 3.7 miles northwest of American Canyon near the West Napa Fault, just west of the Napa County Airport. The event was the largest in the San Francisco Bay Area since the 1989 Loma Prieta earthquake. Significant damage occurred in downtown Napa and the Browns' Valley neighborhood. The quake killed one person, injured about 200. No loss of life, significant damages or injuries occurred within the Master Plan site. The Soda Creek Fault, which is also near the site, is considered inactive. Therefore, ground rupture associated with fault movement is considered very unlikely at the site. The Master Plan EIR considered this to be a less-than-significant impact. For additional analysis on ground shaking that may occur to such a rupture, see the analysis below. Therefore, the potential for fault rupture to affect the Project area is not considered significant.

ii) Strong seismic ground shaking.

The Master Plan EIR discussed that Napa lies within a seismically active region that includes much of western California. Several active faults are present in the region, including the nearby Green Valley-Concord, West Napa and Rodgers Creek Faults. These faults are capable of generating large earthquakes that could produce strong to violent ground shaking at the site. The USGS17 has estimated that there is a 70 percent chance of a large earthquake (magnitude 7 or greater) in the Bay Area by the year 2030. As discussed above, on August 24, 2014, Napa experienced an earthquake measuring a magnitude 6.0. The event was the largest in the San Francisco Bay Area since the 1989 Loma Prieta earthquake. Significant damage occurred in downtown Napa and the Browns' Valley neighborhood. Consistent with the event, the Master Plan EIR previously found that large earthquakes could generate strong to violent ground shaking at the site and could cause damage to structures and threaten public safety. At present, it is not possible to predict precisely when or where earthquakes will occur on these faults. During an earthquake, seismic risk to a structure would depend on the distance to the earthquake epicenter, the characteristics of

the earthquake, the subsurface conditions underlying the structure and its immediate vicinity, and the characteristics of the structure.

The Master Plan area is located on relatively thick, alluvial deposits that could cause amplification of ground shaking. Strong ground shaking could cause significant damage to structures and, in severe instances, result in injuries or loss of life. Based on the recent significant seismic event, the Master Plan area experienced no loss of life, significant damages or injuries; however, this is still considered to be a potentially significant impact under the Master Plan EIR as Impact GEO-1: Large earthquakes could generate strong to violent ground shaking at the site and could cause damage to buildings and infrastructure and threaten public safety. The Master Plan EIR found that implementation of Mitigation Measure GEO1a through c would reduce potential ground shaking impacts to a less-than-significant level because the Project would be required to comply with seismic safety regulations of the UBC as required under Napa's Policy Resolution 27.

The California Building Code requires investigation of subsurface materials and engineering characteristics prior to issuance of the building permit.

The Project is within the development area analyzed in the Master Plan EIR. The Project is required to comply with the EIR's mitigation measures GEO1a through c and California Building Code. Because of this, the Project will not expose people or structures to strong seismic ground shaking.

iii) Seismic related ground failure, including liquefaction.

Liquefaction is a phenomenon where loose, saturated, non-cohesive soils such as clean sands and gravels undergo a sudden loss of strength during earthquake shaking. The Master Plan EIR discussed that test borings performed at the Master Plan site encountered potentially liquefiable sands and silts within the existing fill at depths up to about fifteen feet below the existing ground surface. These materials are intermixed with clays that would not normally be subject to liquefaction. Because the site is located in a seismically active region, future earthquakes are likely during the life of the Project and the risk of liquefaction is significant. The principal effects of liquefaction at the site would likely be settlement of the ground surface and the localized expulsion of sand and water onto the ground surface. Liquefaction could also result in excessive settlement of improperly designed foundations. The Master Plan EIR found that depending on the amount of ground or foundation settlement, damage to the planned buildings could be moderate. Other areas such as parking lots and landscape areas could also undergo settlement and ground deformation as a result of liquefaction. The Master Plan EIR considered liquefaction to be a potentially significant impact under Impact GEO-2: The proposed Project facilities could be damaged by liquefaction.

The Master Plan EIR concluded that implementation of EIR Mitigation Measure GEO-2 would reduce potential liquefaction impacts to a less-than-significant level because these engineering mitigations would either eliminate the liquefaction hazard or protect facilities and people from significant damage or injury.

The Project area is within the liquefaction related development impacts analyzed in the Master Plan EIR, and is required to comply with Mitigation Measure GEO-2. The California Building Code requires investigation of subsurface materials and engineering characteristics prior to issuance of the building permit. The Project also is required to comply with the California Building Code. Because of this, the Project will not explore people or structures to seismic related ground failure, including liquefaction.

The Master Plan EIR also analyzed lateral spreading, which is a phenomenon in which relatively flat land areas undergo sudden lateral movement generally toward a slope or channel margin during an earthquake. Lateral spreading occurs most frequently where liquefiable layers are present at depth and a slope such as a river bank is located nearby. The Master Plan EIR found that the Napa River is too distant from the site to represent a hazard of lateral spreading. However, depending on site conditions and the intensity of earthquake shaking. The Master Plan EIR found that lateral spreading could affect the areas adjacent to Tulocay Creek, along the south bank of Tulocay Creek and the western portion of the north bank. Therefore, impacts related to lateral spreading are not applicable to the Project because it is not located adjacent to these areas.

iv) Landslides.

The Master Plan EIR found that the Master Plan site is essentially flat so would not expose people or structures to risk from landslides. Thus, it found that there would be no impact associated with landslide risk. Vista Tulocay is located within the Master Plan site on flat land. Therefore, the Project will not expose people or structures to landslides.

b) The Project would not result in substantial soil erosion or the loss of topsoil.

The Master Plan EIR found that proper drainage and control of runoff is important in controlling erosion and flooding. Surface v-ditches and storm drains must be regularly maintained to continue functioning as designed. In addition, proper drainage and erosion control during grading is necessary to control erosion and avoid downstream sedimentation, including establishing good vegetation cover on areas of disturbed soil. The Master Plan EIR considered erosion to be a potentially significant impact under Impact GEO-6: The Project grading would alter topography and include fills that could be subject to erosion.

The Master Plan EIR found that implementation of Mitigation Measure GEO-6a through 6c would reduce potential erosion impacts to a less-than-significant level because drainage and erosion control facilities would be required to conform to the UBC and the City storm drainage ordinance. Based on these standards, erosion would be minimized or eliminated and silt would be contained within the site.

Every construction project in the State of California that causes a disturbance of one acre or more of soil through grading, clearing, and or excavation is subject to the General Construction Stormwater Permit (General Construction Permit), adopted by the State Water Resources Control Board (SWRCB). The General Permit requires dischargers to develop and implement a Storm Water Pollution Prevention Plan

(SWPPP), which specifies the Best Management Practices (BMPs) that would prevent construction pollutants, including sediment, from reaching storm drains, with the intent of keeping all products of erosion from moving off-site into receiving waters. Furthermore, the SWPPP would also include BMPs to control erosion associated with grading, trenching, and other ground surface-disturbing activities.

Because the Project is within the impacts analyzed in the Master Plan EIR, because the relatively flat topography of the Project area significantly reduces the potential for erosion and loss of topsoil during construction activities, and because Vista Tulocay must comply with EIR mitigation measures GEO6a-c and adhere to SWPPP requirements, impacts from Vista Tulocay's construction would not result in substantial soil erosion or loss of topsoil.

c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off site landslide, lateral spreading, subsidence, liquefaction or collapse.*

The Master Plan EIR found that the Master Plan site is blanketed with a layer of man-made fill up to about 20 feet in thickness. Importation of additional fill is planned for the future and is expected to consist of soil and rock materials derived from excavations in the Napa area. The alluvial soils that underlie the fill throughout the site are likely to undergo a small amount of settlement in response to placement of the fill. Analysis preformed by KC Engineering indicates that total long-term settlement within the alluvial soils would be approximately 3 to 4 inches, which is considered acceptable. The Master Plan EIR found that the existing fill in the Gasser North parcel is engineered (well compacted). In that area, fill settlement is expected to be within acceptable limits. Additional importation of fill is planned. The geotechnical reports considered in the Master Plan EIR provided recommendations for placement and compaction of fills. The Master Plan EIR found that if not properly engineered, additional fills could undergo excessive settlement, which it considered to be a potentially significant impact, Impact GEO-5: The existing fills could undergo settlement that could cause damage to foundations and pavements.

The Master Plan EIR found that implementation of Mitigation Measure GEO-5 (Poorly compacted fills will be mitigated by excavation and/or additional compaction) would reduce potential settlement impacts to a less-than-significant level because existing and future fills and native soils would be compacted or densified to minimize future settlement. Because of this, the Project is within the analysis of the Master Plan EIR.

The application of current industry standard geotechnical practices and seismic structural design to the Project according to the requirements found in the most recent version of the California Building Code further reduces the risks of soil erosion and the loss of topsoil. The California Building Code requires investigation of subsurface materials and engineering characteristics prior to issuance of the building permit. The Project is required to comply with the California Building Code. Because the Project is required to comply with Mitigation Measure GEO-5 and the California Building Code, the Project will

not expose people or structures to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on or off site landslide, lateral spreading, subsidence, liquefaction or collapse.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

The Master Plan EIR found that the fill and native soils that cover the Master Plan area contain areas of clay soils that are moderately expansive. Expansive soils undergo a significant volume change as a result of wetting or drying. This volume change can cause damage to improperly designed foundations and pavements, which the Master Plan EIR considered to be a potentially significant impact. Impact GEO-4: Expansive soils could cause damage to foundations and pavements. The Master Plan EIR discussed that where buildings are constructed in areas containing expansive soils this impact can be effectively mitigated through the use of appropriate foundations, by capping expansive soils with a layer of non-expansive fill, or by lime treatment. Typical mitigation measures for pavements include special pavement design and/or subexcavation of expansive soils.

The Master Plan EIR concluded that implementation of Mitigation Measure GEO-4 would reduce potential expansive soil impacts to a less-than-significant level because the engineering mitigations would minimize or eliminate expansive soil movement and therefore would protect Project facilities from expansive soil damage.

The application of current industry standard geotechnical practices and seismic structural design to the Project according to the requirements found in the most recent version of the California Building Code further reduces the risks of soil erosion and the loss of topsoil. The Project is required to comply with the California Building Code. Because the Project is required to comply with Mitigation Measure GEO-4 and the California Building Code, the Project will not explore people or structures to be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

No septic tanks or alternative wastewater disposal systems are or will be on the Project site. Because the Project does not require the use of septic or other alternative disposal wastewater systems, this section is not applicable.

Mitigating Policies and implementing programs:

The Project shall comply with the following EIR mitigation measures:

- GEO-1a

- GEO-1b
- GEO-1c
- GEO-2
- GEO-3
- GEO-6a
- GEO-6b
- GEO-6c
- GEO-5
- GEO-4

With implementation of these mitigation measures and the required building standards, the impacts of geologic hazards and seismic ground shaking would be reduced to less-than-significant level. Further, the Project would be designed and constructed in a manner that is consistent with the development analyzed in the EIR. The Project would also comply with the California Building Code as a condition of approval.

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant geology and soils impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant geology and soils impact.

4. There is no new information of substantial importance showing that significant geology and soils impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.G - Hazards and Hazardous Materials

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*				
a. Create a significant hazard to the public or the environmental through the routine transport, use, or disposal of hazardous materials.				X
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.				X
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.				X
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.				X
e. Result in a safety hazard for people residing or working in the project area or a project within the vicinity of a private airstrip or within an airport land use plan.				X
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.				X
g. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.				X

The Project was examined and compared to the analysis in the Master Plan EIR as it pertains to hazards and hazardous materials to determine whether the Project is within the scope of the development contemplated by the Master Plan and whether it could result in new effects that were not identified and addressed in the Master Plan EIR. Based on this review and as detailed below, it was determined that the Project is within the scope of the Master Plan development program and would not result in any new significant environmental effects relating to hazards and hazardous materials.

The Project would be designed and constructed in a manner that is consistent with the development analyzed in the EIR. As such, the Project would not create new or greater impacts to hazards and hazardous materials that were not disclosed in the Master Plan EIR or propose changes that require revisions to that EIR. In addition, no substantial changes with respect to circumstances under which the Project is undertaken or the discovery of new important information has occurred since the Master EIR was completed and certified that would require revisions to the EIR. Therefore, the Project would not result in any new or more severe impacts with respect to hazards and hazardous materials that were not previously analyzed and disclosed in the Master Plan EIR, and no further environmental analysis is required.

As explained below, the Project would not result in any new environmental effects relating to hazards and hazardous materials that were not identified and addressed in the Master Plan EIR.

a) The Project would not create a significant hazard to the public or the environmental through the routine transport, use, or disposal of hazardous materials.

The EIR evaluated whether temporary construction activities associated with development under the Master Plan may involve the transport and use onsite of hazardous materials, such as limited quantities of gasoline, diesel fuel, hydraulic fluid, solvents, oils, and paints for the construction of individual, projects within the Planning Area. These materials would be transported along the roadways and temporarily stored onsite. Containment and spill cleanup is encompassed in the Storm Water Pollution Prevention Plan (SWPPP) to prevent hazardous materials from spreading off the property.

The Master Plan EIR concluded that due to the small quantities of hazardous materials that would be used during construction, the use of standard handling practices, compliance with regulatory hazardous materials management requirements, and the use of trained personnel, no adverse environmental or human health impacts are anticipated as a result of construction activities on the Project site because it is within the Master Plan area. However, the Master Plan EIR also concluded because of the possibility of on-site spills in the Master Plan area (though very unlikely), this impact is conservatively considered potentially significant. The mitigation measures designed mitigate the impact to a less-than-significant level are discussed below.

Because the Project is located within the Master Plan area and is designed consistent with the requirements of the approved Master Plan regulations and guidelines, as analyzed in the Master plan EIR, it is within the Scope of the Master Plan EIR. As such, the Project would not create a significant hazard to the public or environment from hazardous materials beyond what was analyzed within the Master Plan EIR. Because the project must comply with mitigation measures MMHas-1a through 1c, Project impacts will be less than significant.

b) The Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

The Master Plan EIR discussed accidental releases and reasonably foreseeable conditions by the proposed development facilitated under the Master Plan. The Master Plan EIR concluded that due to the small quantities of hazardous materials that would be used during construction, the use of standard handling practices, compliance with regulatory hazardous materials management requirements, and the use of trained personnel, no adverse environmental or human health impacts are anticipated as a result of construction activities on the Project site because it is within the Master Plan area. However, the Master

Plan EIR also concluded because of the possibility of on-site spills in the Master Plan area (though very unlikely), this impact is conservatively considered potentially significant. The mitigation measures designed mitigate the impact to a less-than-significant level are discussed below.

Consistent with the Master Plan EIR, the Project will involve construction that may include use and onsite storage of substances including gasoline, diesel fuel, hydraulic fluid, solvents, oils, and paints. As a condition of construction, the Project would be required to comply with existing regulations that would address potential upsets and accidents.

c) The Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

No existing or proposed school is located within one-quarter mile of the Project site. The Project does not have the type of industrial uses that would emit hazardous material, substances or wastes. The proposed uses in the Master Plan area would not include any hazardous emissions or handle hazardous materials, substances or waste such that it would put occupants of a school at risk. Therefore, the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

d) The Project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.

The Project site in not included in the above-referenced list. Therefore, this section is not applicable.

e) The Project would not result in a safety hazard for people residing or working in the project area or a project within the vicinity of a private airstrip or within an airport land use plan.

The closest airstrip or airport to the Project site is well outside of the Project area. The Master Plan is outside the Airport Land Use Plan. Therefore, the Project will not result in a safety hazard for people residing or working in the Project area or a project within the vicinity of a private airstrip or within an airport land use plan.

f) The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The Project would comply with all emergency vehicle access requirements. The Master Plan EIR stated that Emergency Plans and Emergency Evacuation Plans would need to be updated to incorporate the proposed project development changes such as new transportation, storage, and use of hazardous materials and disposal of hazardous waste, if any. It found that the incorporation of the proposed Master Plan Project into the City plans would eliminate any potential impacts to the plans. The City subsequently incorporated the Master Plan Area in its plans, including the Project site, eliminating any

impact to the plans. Because the Project will comply with the City's emergency requirements, it will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

g) *The Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.*

The Project site is not located immediately adjacent to any wildlands. All construction associated with the Master Plan would be required to adhere to Building Fire Codes designed to minimize the potential for uncontrolled fires. Because the Project adheres to such codes and is located in the Planning Area, it will not expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

General Plan and Master Plan Mitigating Policies and implementing programs:

The Project would not result in impacts to hazards and hazardous materials that have not already been addressed in the Master Plan EIR. The Master Plan EIR recommended implementation of three mitigation measures to reduce potential impacts to a less-than-significant level. The Project shall comply with the following mitigation measures from the EIR:

- MM Haz-1a
- MM Haz-1b
- MM Haz-1c

Implementation of these mitigation measures would reduce potential impacts to a less-than-significant level because they would ensure procedures are in place for reducing the likelihood of accidental hazardous materials spills through preventive actions and provide mechanisms for dealing with spills should they occur. Additionally, the mitigation measures would implement procedures for proper hazardous materials handling to reduce spills.

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant hazards and hazardous materials impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant hazards and hazardous materials impact.

4. There is no new information of substantial importance showing that significant hazards and hazardous materials impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.H - Hydrology and Water Quality

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
Hydrology and Water Quality. *Would the project:*				
a. Violate any water quality standards or waste discharge requirements.				X
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre existing nearby wells would drop to a level which would not support existing land uses or proposed uses for which permits have been granted).				X
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site.				X
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or increasing the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.				X
e. Create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.				X
f. Otherwise substantially degrade water quality.				X
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.				X
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows				X
i. Expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam.				X
j. Result in inundation by seiche, tsunami, or mudflow.				X

The Project was examined and compared to the analysis in the Master Plan EIR as it pertains to hydrology and water quality to determine whether the Project is within the scope of the development contemplated by the Master Plan and whether it could result in new effects that were not identified and addressed in the Master Plan EIR. Based on this review and as detailed below, the Project is within the scope of the Master Plan development program and would not result in any new significant environmental effects relating to hydrology and water quality.

The Project would be designed and constructed in a manner that is consistent with the development analyzed in the Master Plan EIR. As such, the Project would not create new or greater impacts to hydrology and water quality that were not disclosed in the Master Plan EIR or propose changes that require revisions to that EIR. In addition, no substantial changes with respect to circumstances under which the Project is undertaken or the discovery of new important information has occurred since the

Master Plan EIR was completed and certified that would require revisions to the Master Plan EIR. Additionally, many of the Master Plan mitigation measures have been fully or completely implemented, and the Napa River Flood Protection Plan ("NRFPP") has been completed. Therefore, the Project would not result in any new or more severe impacts with respect to hydrology and water quality that were not previously analyzed and disclosed in the Master Plan EIR, and no further environmental analysis is required.

As explained below, the Project would not result in any new environmental effects relating to hydrology and water quality that were not identified and addressed in the Master Plan EIR. Applicable Master Plan EIR mitigation measures are described under the mitigation section.

a) The Project would not violate any water quality standards or waste discharge requirements.

The Master Plan EIR analyzed the existing hydrologic resources, the state of water quality in and near the Master Plan Area, and the state and local regulations that would apply to implementing the Master Plan. The Master Plan EIR also provided an assessment of regional and local hydrological resources and water quality that could have an effect on the Master Plan.

The Master pLan EIR analyzed whether development facilitated by the Master Plan could potentially violate water quality standards, violate waste discharge requirements, or otherwise degrade water quality by increasing nonpoint source pollutants in stormwater runoff. It concluded pollutants in stormwater runoff associated with development under the Master Plan would be minimized with adherence to the various guidelines, ordinances, and permit requirements discussed in the EIR. Design standards applicable under the Master Plan would include the City's Storm Water Management Plan and Stormwater Runoff Pollution Control Ordinance, which include pollutant source control features such as use of landscaped areas for infiltration of stormwater, permeable paving, stormwater detention basins, and parking lots with bio-infiltrations systems. The Master Plan EIR concluded that incorporation of these design features would ensure that development facilitated under the Master Plan would improve the water quality of runoff directed offsite to downstream receiving waters. The Master Plan EIR concluded that this potential impact would be potentially significant and required mitigation.

Master Plan EIR mitigation measure 1a mitigated the impact to less-than-significant under Hydro 1a: Stormwater Pollution Prevention Plan (SWPPP) – A storm water pollution prevention plan will be prepared as part of the construction plan package. A Notice of Intent (NOI) will be filed with state Regional Water Quality Control Board prior to grading permit issuance. The SWPPP and Storm Water Management Plan (SRMP) will address Hydro 1a through 1d. Master Plan EIR mitigation measures 2a-c and 2e-g reduce the long-term water quality impacts to a less-than-significant level. A preliminary SRMP has been submitted as part of the application package that addresses Hydro 2a and 2b and 2d. The preliminary utility plans included in the application package depicts storm drain easements pursuant to Hydro 2c. A Stormwater Operations and Maintenance plan is to be prepared and approved at time of

construction plan approval. The Stormwater Operations and Maintenance plan will address Hydro 2e and 2f. The Stormwater Operations and Maintenance Plan and the SRMP address Hydro 2g.

The Project is located within the Master Plan Area and is designed consistent with the Master Plan requirements and regulations, would implement certain conditions of approval designed to address potential stormwater impacts, and must comply with the Master Plan EIR mitigation measures described below, the City's Storm Water Management Plan, the City's Stormwater Runoff Pollution Control Ordinance, and the Master Plan's Design Guidelines. Compliance with these requirements and regulations would ensure that the Project would not violate any water quality standards or waste discharge requirements.

b) The Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre existing nearby wells would drop to a level which would not support existing land uses or proposed uses for which permits have been granted).

The Master Plan EIR considered whether potential development under the Master Plan would have implications on groundwater both in terms of quantity (increase in impermeable surface area causing a reduction in recharge rates) and quality (pollution derived from various sources contaminating groundwater underlying the site). Polluted runoff would be subject to prior water quality treatment as part of the surface water mitigation prior to infiltration. In addition, these non-point source pollutants are typical of urban and commercial development in low concentrations, dispersed over a large area. The Project site is of low importance in terms of groundwater recharge due to its low permeability soils, resulting in pollutants entering the aquifer at low rates. Groundwater impacts in the Master Plan area were therefore considered to be less-than-significant for the Master Plan.

Because the Project is located within the Master Plan area and is designed consistent with the requirements of the approved Master Plan regulations and guidelines including groundwater analysis, as analyzed in the Master plan EIR, it is within the Scope of the Master Plan EIR. The Project will not use groundwater for the Project. Therefore, the Project does not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre existing nearby wells would drop to a level which would not support existing land uses or proposed uses for which permits have been granted).

c) The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site.

The Master Plan EIR analyzed whether development facilitated by the Master Plan could potentially alter existing drainage patterns, causing downstream erosion, siltation, or flooding. It found the Master Plan Project would alter site drainage. At the time of the Master Plan EIR, the site was undeveloped and heavily vegetated, resulting in infiltration of a large proportion of precipitation falling on the site and runoff traveling over the site. The Master Plan EIR analyzed that the Master Plan development, including the Project site would replace these permeable surfaces with impervious ones, such as parking lots and building roofs, reducing the infiltration that would take place. This would cause a subsequent increase in stormwater peak flows and runoff volumes. The change in land use at the Gasser North site would cause an estimated 240 percent increase in peak discharges from the site due to changes in runoff characteristics expected from proposed site development. The 25-year peak discharge within Gasser North would be expected to increase from approximately 11 cfs currently to 38 cfs following project construction, and the 100-year peak discharge would increase by approximately 34 cfs (shifting from a current rate of about 14 cfs to 48 cfs following project construction) within Gasser North. At the time of the Master Plan EIR, the plans for the system to move drainage offsite from Gasser North (i.e., the pumps from the North Basin) do not yet account for all the proposed development. The impacts of increased runoff from the proposed Project in terms of impacts to drainage systems were therefore expected to be potentially significant.

In addition to increases in site runoff peak flows and volumes, alteration of the site terrain and stormwater drainage facilities would change existing drainage patterns on the site, modifying the flow paths of runoff from both on and off-site sources. Some of these drainage patterns have already been altered by the placement of fill material on Gasser North by the USACE for the NRFPP (the NRFPP is considered as part of the baseline for this project). The Master Plan EIR found that development pursuant to the Master Plan was expected to alter essential flow patterns, and that such development would place new fill and structures in the path of overland flow from north and east of the Project site, presenting a significant barrier to runoff from about 700 acres in the Tulocay Creek watershed. The Master Plan EIR found that increased site runoff creates the potential for the existing or planned drainage system capacity to be exceeded. The creation of new flow paths that could create erosion/sedimentation risks is a potential outcome associated with an altered drainage system. Drainage changes, comprised of the substantial alteration of the drainage system for the proposed Project and the contribution of additional runoff with the potential to exceed the capacity of existing and planned drainage systems, are therefore considered to constitute a potentially significant impact.

The Master Plan EIR concluded development under the Master Plan would include design features that incorporate required stormwater management guidelines. While these design features might alter the drainage patterns; however, they would likely result in a net reduction in stormwater flows offsite through the addition of pervious surfaces. The Master Plan EIR included mitigation measures 3a-d to reduce the impact to a less-than-significant level. Consistent with the mitigation measures, Erosion and Sediment Control plans must be included in the construction plans that address erosion/ siltation. The SRMP and the supporting drainage calculations must be approved by the City in conjunction with the construction plans.

The Project is required to incorporate stormwater management and design features in accordance with the mitigation requirements of the Master Plan EIR and applicable standards. Because of this, the Project will not substantially alter the existing drainage pattern of the site or area compared to that analyzed in the Master Plan EIR, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or off-site.

d) *The Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or increasing the rate or amount of surface runoff in a manner that would result in flooding on or off-site.*

The Master Plan EIR's analysis of drainage and runoff was based upon the status of the NRFPP. It concluded that until the NRFPP is sufficiently completed (or under so-called "interim" conditions), overland flood flows escaping the river channel at the oxbow just upstream of the Project site will also pass through Gasser North; in addition, until NRFPP levees and floodwalls adjacent to Gasser North and upstream at the oxbow are completed, overland flood flows from the Napa River and Gasser North may also pass into Gasser South at the railroad bridge; flood flows from Tulocay Creek or the Napa River may overflow the Tulocay Creek levees; and Napa River flood waters may also flow from the south and west into Gasser South while those NRFPP levees remain incomplete. The EIR found that placement of fill within the Gasser North area beyond that which is part of the NRFPP has the potential to substantially alter existing flow paths carrying these flows and the flood hazards associated with them until the NRFPP floodwalls, new and raised levees, and pump station/outfall elements are in place, new development at Gasser North would be exposed to substantial flood hazards from the passage of overland Napa River flows and the associated elevated ponding at the Gasser North wetland, also known as North Basin.

Because there were substantial flood hazards at the Project site that would persist until the NRFPP is completed, Master Plan development, including the Project could create new exposure to potentially significant flood hazards under the EIR analysis. This exposure-related interim flood hazard represented a potentially significant impact. The EIR included mitigation measure 3a-d to reduce the impact to a less-than-significant level. (Discussed in d), above.) The NRFPP is now substantially complete.

Because the NRFPP is substantially completed and the Project is required to adhere to the mitigation measures described below and to the City's Storm Water Management Plan and Stormwater Runoff Pollution Control Ordinance, the Project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or increasing the rate or amount of surface runoff in a manner that would result in flooding on or off-site.

e) *The Project would not create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.*

The Master Plan EIR analyzed whether the Master Plan development could have a geomorphic impact, as increased surface runoff could increase the volume, duration, and peak flow characteristics of the discharges entering the Napa River and Tulocay Creek, potentially causing erosion. However, the geomorphic impacts of the Project were considered to be minimal due to the site's proximity to the outlets of these waterways and to the San Francisco Bay, the planned pumping of runoff from the site over an extended period, as well as measures being taken to reduce increases in stormwater discharges caused by the development. Therefore, this impact was considered to be less-than-significant.

Because the Project is within the analysis of the Master Plan EIR and subject to Master Plan requirements, it must incorporate the City's stormwater guidelines, ordinance and permit requirements into its design. Because the Project must adhere to these guidelines, ordinary and permit requirements, the Project will not create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

f) The Project would not otherwise substantially degrade water quality.

The Master Plan EIR analyzed whether development facilitated by the Master Plan could potentially introduce additional non-point source pollutants to surface waters that would degrade water quality. It found that development facilitated by the Master Plan could result in impacts on water resources and impact water quality. The Master Plan EIR found that development of the Project site could degrade water quality as a result of urban land uses and increased imperviousness resulting from the project. Metal loads (e.g., zinc, lead, and copper) in runoff and nitrogen and ammonia loads would increase. Impervious surfaces would collect and accumulate pollutants leaked from vehicles, such as oil in the parking lots. The quantities of trash, pet waste, fertilizers, and pesticides affecting area waterways, including the wetlands on the Project site, are likely to increase as a result of the proposed development. During storms, accumulated pollutants would be washed off and delivered to neighboring watercourses via the storm sewer system. Additionally, it found that site grading during construction would disturb the land surface, removing the protective vegetation and exposing soil to rain, erosion and transport to adjacent watercourses. Other potential sources of water quality degradation occurring during construction include accidental spills of fuel or chemicals. The Master Plan EIR also described that the Napa River and its tributary waters are on the 303(d) list of impaired water bodies for nutrients, pathogens, and sediment. In sum, the expected water quality impacts of the proposed Project are potentially significant.

Any increases in impervious surfaces could create higher erosion rates as well as reduce groundwater recharge. The Master Plan and other present and future projects in the region are required to comply with drainage and grading ordinances intended to control runoff and regulate water quality at each development site, and new projects would be required to demonstrate adequate capacities of stormwater volumes that would be managed by downstream conveyance facilities.

The City's Storm Water Management Plan, Stormwater Runoff Pollution Control Ordinance, and National Pollution Discharge Elimination System (NPDES) permitting requirements apply to the Master Plan Area. The Master Plan EIR required several mitigation measures to reduce impacts to a less-than-significant level. The Master Plan EIR concluded that because final design plans for an individual project would be required to include storm water management features that address stormwater quantity and quality and that would minimize the potential for adverse impacts of receiving waters, the effect of the Master Plan on water quality and hydrology, in combination with other past, present, and foreseeable projects would not be significant.

The Project is subject to the EIR mitigation measures, the City's Storm Water Management Plan, Stormwater Runoff Pollution Control Ordinance, and National Pollution Discharge Elimination System (NPDES). The Project's final construction plans are required to include stormwater management features that address stormwater management features that address stormwater quality and quality that minimize pollutants in receiving waters. Therefore, the Project will not otherwise substantially degrade water quality.

The Master Plan EIR included mitigation measure 3a-d to reduce the water quality impact to a less-than-significant level. (Discussed in d), above.)

g) The Project would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

The Master Plan EIR discussed that the Project would involve the construction of residential and commercial buildings in a zone then classified within the 100-year floodplain. However, the expected completion of the NRFPP would reduce flood water elevations in the reach of the Napa River adjacent to the Project site and is expected to eliminate Napa River flood flows across the site in the 100-year recurrence interval and lesser flood events.

The City of Napa requires development within the floodplain to elevate finished floors of residences to 1 foot or more above the current 100-year flood elevation, and the same or flood-proofing of new non-residential construction. The Master Plan EIR concluded that until the City, the USACE or an other party develops a new floodplain analysis that can be recognized by FEMA, the current FEMA floodplain description and associated local and federal regulations will apply. The Gasser Master Plan calls for new buildings in Gasser North and Gasser South to be raised above estimated current 100-year flood levels, primarily using fill material generated by the NRFPP excavation of terraces on the banks of the Napa River. The EIR found that once the site is remapped for floodplain regulation purposes, new development within the floodway—most of the Project site—is no longer prohibited under the NFIP if it can be reliably demonstrated and documented that the space occupied by the development serves no flood storage or conveyance function under base flood conditions. That remapping has occurred.

The Master Plan EIR found that a central issue to site development has planning for the safe routing of off-site flows from north and northeast of the Project site across the Gasser North to the wetland referred to as the North Basin under interim as well as baseline conditions. A number of alternative approaches, ranging from a channel to a culvert system, have been proposed to address the routing of these inflows from off-site sources (sometimes called "residual" flood flows, as they will persist even after NRFPP implementation) to the Gasser North wetland, also referred to as the North Basin. At the time of the Master Plan EIR, the overland flows extended across a very broad flood path at the northern boundary of the Gasser North area, including the Project site.

The Master Plan EIR found that until a stormwater management system is constructed that will safely convey these residual off-site flows to the Gasser North wetland, proposed development at the Gasser North site within the flow path (i.e., Tulocay Square) would have the potential to increase the hazards caused by these flows. In addition, the proposed Project would place more people and property in the path or vicinity of these flows, also increasing flood risks. Based on these residual flood flow impacts from the proposed project, both potential and expected, residual flood hazard impacts were determined to be potentially significant.

As discussed in the Master Plan EIR's Drainage Impacts section, development at Gasser North and Gasser South would also be expected to increase runoff rates and quantities to the wetlands compared to existing conditions. As a result, flooding from higher water levels at the wetlands could occur.

Gasser North drainage flows to the Gasser North wetland, or North Basin. The Mater Plan EIR found that there was potential for the existing or planned drainage system capacity to be exceeded as a result of this incremental contribution and for significant new flood hazards to result. Thus, the risk of increased flood hazards from increased site runoff from proposed development within both Gasser North and Gasser South was a potentially significant impact.

The Master Plan EIR required mitigation measures to reduce the impacts to a less-than-significant level. The NRFPP is substantially complete. Because of this and because the Project is required to comply with EIR mitigation measures Hydro 4a-f, Hydro 5a-b, Hydro 6a-6b, Hydro 7 and Hydro 8, it will not have an impact greater than anticipated in the EIR. Therefore, the impacts are less-than-significant.

h) The Project would not place within a 100-year flood hazard area structures that would impede or redirect flood flows.

The Master Plan EIR described that the proposed Gasser Drive Bridge across Tulocay Creek would link Gasser South to the proposed Creekside Commercial area and Soscol Avenue. That bridge was expected to be up to 84 feet wide. The Master Plan EIR found that the Gasser Drive Bridge has the potential to impede flood waters, which could create flood hazards. The EIR also described the effects of a Tulocay Creek levee overtopping could create potentially significant flood hazards.

The Master Plan EIR found that until the Tulocay Creek levees are raised as part of the NRFPP, the increase in water surface elevations that may be caused by a new Gasser Drive Bridge may be more likely to cause overtopping of the existing Tulocay Creek levees during a large flood event, causing flood flows to be sent into North or Gasser South. It concluded that even full implementation of the NRFPP levee raise at Tulocay Creek wound not preclude overtopping of these levees. The levee work has been substantially completed.

The Master Plan EIR discussed that because the NRFPP is largely implemented downstream of the Project site, but more flow will be contained in the river once the upstream floodwalls are completed, the flood stage of Napa River flood flows under interim conditions at the mouth of Tulocay Creek may be slightly different than expected at ultimate NFRPP (or baseline) conditions, However, the Master Plan EIR concluded that it is not expected to be significantly higher and may be somewhat lower.

Thus, the Master Plan EIR found that based on then available hydraulic analysis, the expected bridge design, and the relationship of the bridge low chord to the NRFPP levee tops, the flood hazards associated with this structure are potentially significant.

The Master Plan EIR recommended mitigation measures Hydro 7 and 8 to reduce these impacts to a less-than-significant level. The Gasser Bridge has been reduced in size, and conforms to the mitigation measures. The Project and, independently, the Gasser Bridge, must adhere to mitigation measures Hydro 7 and 8 from the Master Plan EIR. Therefore, the Project's impacts are no greater than those analyzed in the Master Plan EIR and are reduced to a less-than- significant level.

i) The Project would expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam.

The Master Plan EIR discussed that the City has developed a designation termed "flood evacuation area" that identifies areas with significant flood hazards; to the extent that development at the Project site occurs within a designated City flood evacuation area, the City requires a development with potential for five or more residential units, such as those proposed for the Project, to address the flood evacuation needs of the future residents to the satisfaction of the Public Works Director. The Project has been designed to satisfy the City's flood evacuation requirements.

Although the NRFPP will dramatically reduce the risk of flooding at the site in the future, it will not eliminate the possibility of flooding completely. Development on the Project site would remain at risk of flooding from a flood with a higher magnitude than a 100-year recurrence interval. In addition, a potential for failure of the NRFPP will persist, although remote, as it does for all structural constraints on floodwaters. This creates the very small possibility of a destructive outcome potential at the site for any new residents and investments associated with this project.

One mechanism for NRFPP failure of particular concern is overtopping and subsequent breaching of the Tulocay Creek levees. As a result of this potential deficiency in the NRFPP, Tulocay Creek levee design, there may be risk of failure of the Tulocay Creek levees even after the NRFPP is completed. If these levees were to fail, the impacts to the proposed Gasser North and Gasser South projects would be slightly different. For Gasser North, overtopping and subsequent breaching of the levee would tend to send water from the failure site across low-lying lands to the North Basin, where it would be held until the pumps or gravity flow to Tulocay Creek was able to drain it. This may temporarily increase water levels in the North Basin above the anticipated 11-foot elevation in a 100-year storm event, though the North Basin pumps may be capable of limiting any Tulocay Creek over-flows to the 11-foot elevation. If the wetland exceeded about 14 feet in elevation, it would begin to inundate adjacent parking lots and roadways. Because the placement of fill associated with the NRFPP has raised the proposed Project and Creekside Commercial areas to approximately 15 to 17 feet, and their finished floor elevations are at 16 – 18 feet, while Tulocay Square is planned for grading to similar elevation with finished floors at 16.5 – 16.75 feet, overtopping of 16-foot high levees would likely cause temporary flow (unlikely to last more than a few hours) in parking lots and roadways, but negligible flooding of buildings. The elevation in the North Basin may be higher than it would otherwise be for an extended period, but would likely remain at or less than 16 feet in elevation.

The Master Plan EIR found that under then-current FEMA floodway regulation and City zoning-based constraints, as well as Napa River and Tulocay Creek flood hazards that will continue to persist even with the completion of the NRFPP. Therefore, the Master Plan EIR concluded that the proposed development under the Master Plan, a large project site will create a potentially significant flood hazard impact.

The Master Plan EIR required mitigation measures 4a-f, 5 a-b, 7 and 8 to mitigate these impacts to a less-than-significant level. With the completion of Master Plan flood protection mitigation measures at Gasser South, the substantial completion of NRFPP, and because the Project must adhere to the mitigation measures for flood protection at Gasser North, the impacts are no greater than analyzed in the EIR and are reduced to a less-than-significant level. These are discussed above in section g).

j) The Project would not result in inundation by seiche, tsunami, or mudflow.

The Master Plan EIR concluded that the Master Plan Area is located in an inland area that is not within an area subject to seiches, tsunamis or mudflows. Therefore, there would be no impact associated with these hazards.

Because the Project is located in the Master Plan Area, it would not result in inundation by seiche, tsunami, or mudflow.

Mitigating Policies and implementing programs:

- Hydro 1 a

- Hydro 2 a-c
- Hydro 3 a-d
- Hydro 4 a-f
- Hydro 5 a-b
- Hydro 6 a-b
- Hydro 7
- Hydro 8

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant hydrology and water quality impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant hydrology and water quality impact.

4. There is no new information of substantial importance showing that significant hydrology and water quality impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.I - Land Use and Planning

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
LAND USE AND PLANNING. *Would the project:*				
a. Physically divide an established community.				X
b. Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, Master Plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.				X
c. Conflict with any applicable habitat conservation plan or natural community conservation plan.				X

The Project would be designed and constructed in a manner that is consistent with the development analyzed in the Master Plan EIR. As such, the Project would not create new or greater impacts to land use and planning that were not disclosed in the Master Plan EIR or propose changes that require revisions to that EIR.

a) The Project would not physically divide an established community.

The Master Plan EIR considered whether development facilitated by the Master Plan could potentially result in the physical division of an established community including specific analysis of Gasser North. Because the Project was planned within the Master Plan development in Gasser North, it will not physically divide an established community.

b) The Project would not conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, Master Plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Conflicts between a project and applicable policies do not constitute significant physical environmental impacts in and of themselves. A General Plan contains many policies that may address different goals. A policy inconsistency is considered a significant adverse environmental impact only when it is related to a policy adopted for the purpose of avoiding or mitigating an environmental effect, and it is anticipated that the inconsistency would result in a significant adverse physical impact based on the established significance criteria. The Master Plan EIR contained a detailed analysis of consistency with the City's plans and policies.

The Master Plan EIR concluded development facilitated by the Master Plan would be consistent with applicable land use policies adopted for the purpose of avoiding or mitigating an environmental effect.

The Project site is located within The Gasser North zoning district. Because the Project was envisioned as subsequent development by the Master Plan, and was analyzed in the Master Plan EIR, it does not conflict with applicable land use plans, policies or regulations of agencies with jurisdiction on the Project adopted for the purpose of avoiding or mitigating an environmental effect.

c) The Project would not conflict with any applicable habitat conservation plan or natural community conservation plan.

The Master Plan EIR found that there are no habitat or conservation plans or natural community conservation plans applicable to the Master Plan site. Therefore, the Project does not conflict with any applicable habitat conservation plan or natural community conservation plan. See Section Biological Resources discussion for additional analysis.

Mitigating Policies and implementing programs:

Consistent with the Master Plan EIR, although no impacts were identified, the Project applicant would be required to comply with the following mitigation measures, as specified in the City of Napa's Policy Resolution 27 (PR 27):

- Developer shall comply with all requirements of federal, state and local laws and regulations applicable to Project construction and issuance of building permits. (PR 27 Mitigation Land Use IX.1.)
- Developer shall comply with the monitoring/reporting checklists development pursuant to the City of Napa Resolution 96-153, as updated from time to time, regarding CEQA implementation procedures for both standard and project specific mitigation measures. (PR 27 Mitigation Land Use IX.2.)

Developer shall notify all employees and agents of the mitigation measures and conditions applicable to the Project and shall ensure compliance with such measures and conditions. Developer shall also notify all assigns and transferees of the same. (PR 27 Mitigation Land Use IX.3.)

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant land use and planning impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant land use and planning impact.

4. There is no new information of substantial importance showing that significant land use and planning impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.J - Mineral Resources

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
MINERAL RESOURCES. *Would the project:*				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.				X
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.				X

The Master Plan EIR found that development on the Project site would have no impacts on mineral resources.

a) The Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

The Master Plan EIR excluded impacts to mineral resources from its discussion because the implementation of the Master Plan would have no impact on mineral resources. This is because the Master Plan Area is located in a developed urban area that has no known existing mineral resources. The Planning Area is mapped by the California Department of Mines and Geology as MRZ-1, an area where adequate information indicates a low likelihood of significant mineral resources. Because the Master Plan Area is in a MRZ-1 zone and excluded from the EIR analysis implementation of the Master Plan would not result in the loss of availability of a known mineral resources that would be of value to the region and the residents of the state. Because the Project is located in the Master Plan Area, it would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

b) The Project would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

For the reasons explained above and because the Project is in the Master Plan Area it would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Mitigating Policies and implementing programs:

There are no applicable mitigation measures or policies because neither the Master Plan nor the Project would have impacts on mineral resources.

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant land use and planning impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant land use and planning impact.

4. There is no new information of substantial importance showing that significant land use and planning impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.K – Noise and Vibration

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
NOISE AND VIBRATION. *Would the project:*				
a. Conflict with land use compatibility guidelines for land uses contained in the Napa General Plan (shown in Figure 4.I-3); noise levels at new receptors that would be above the "normally acceptable" level are considered in conflict with the compatibility guidelines.				X
b. Increased noise along existing and new roadways to levels that exceed 65 Ldn ("normally acceptable"), as shown in Figure 4.I-3 and a traffic noise increase of at least 3 dBA.				X
c. Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels.				X
d. Exposure of people residing or working in the Planning Area to excessive noise levels within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, or a private airstrip.				X

The Project was examined and compared to the analysis in the Master Plan EIR as it pertains to noise and vibration to determine whether the Project is within the scope of the development contemplated by the Master Plan and whether it could result in new effects that were not identified and addressed in the Master Plan EIR. Based on this review and as detailed below, the Project is within the scope of the Master Plan development program and would not result in any new significant environmental effects relating to noise and vibration.

The Master Plan EIR found that development pursuant to the Master Plan may result in noise impacts by exposing proposed noise-sensitive receivers to noise levels above the standards in the local General Plan or noise ordinance, exposing sensitive uses to excessive groundborne vibration levels, substantially increasing noise levels on a temporary or permanent basis, locating noise-sensitive uses within the vicinity of an airport where noise levels are considered excessive, or conflicting with any noise policies contained in the General Plan or noise ordinance. TheMaster Plan EIR contained mitigation measures to reduce these impacts to less-than-significant impacts.

The Project would be designed and constructed in a manner that is consistent with the development analyzed in the Master Plan EIR. As such, the Project would not create new or greater impacts to noise and vibration that were not disclosed in the Master Plan EIR or propose changes that require revisions to that EIR. In addition, no substantial changes with respect to circumstances under which the Project is undertaken or the discovery of new important information has occurred since the Master Plan EIR was completed and certified that would require revisions to the Master Plan EIR. Therefore, the Project would not result in any new or more severe impacts with respect to noise and vibration that were not previously analyzed and disclosed in the Master Plan EIR, and no new environmental analysis.

As explained below, the Project would not result in any new environmental effects relating to noise and vibration that were not identified and addressed in the Master Plan EIR.

a) The Project would not conflict with land use compatibility guidelines for land uses contained in the Napa General Plan (shown in Figure 4.I-3); noise levels at new receptors that would be above the "normally acceptable" level are considered in conflict with the compatibility guidelines.

The Master Plan EIR found that construction of the Project would generate noise, and would temporarily increase noise levels at adjacent residential land uses to the west and north. Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise generating activities, and the distance between construction noise sources and noise sensitive receptors. As explained in the Master Plan EIR, where noise from construction activities exceeds 60 dBA Leq and exceeds the ambient noise environment by at least 5 dBA, the impact would be considered potentially significant. The duration of the construction noise is also considered in the assessment. Project construction would be expected to generate worst-case hourly average noise levels of about 81 to 89 dBA Leq at the nearest noise-sensitive receivers along Oil Company Road. Construction noise levels would be approximately 58 to 66 dBA Leq at the nearest noise-sensitive receivers west of the Napa River. Noise levels would exceed 60 dBA Leq and the ambient by more than 5 dB. This was a potentially significant impact in the EIR. Mitigation measures from the Master Plan EIR apply to the Project to reduce impacts to less-than-significant. These are described below.

The Master Plan EIR also analyzed noise impacts specifically related to the Project. It found noise from proposed residential dwellings would expose other nearby residences, especially on Oil Company Road, to minor increases in ambient noise levels. Noise typically associated with such development includes lawn and garden equipment, voices, and amplified music. Activities associated with these land uses would result in only minor increases in ambient noise levels, primarily during the day and evening hours and less frequently at night, as perceived at the closest residential receptors. Noise levels generated by stationary sources, primarily residential central air conditioning units, typically average approximately 60-70 dB at 3 feet from the source.

In general, multi-family residential projects are considered "normally acceptable" in exterior noise environments of 65 CNEL or less. Where exterior noise levels exceed 65 CNEL, new construction requires mitigation to meet the exterior noise level limit. Common outdoor use areas (e.g., swimming pools) are proposed in the central portion of the Project's residential multi-family development on the Gasser North parcel. These areas would be located several hundred feet from the predominant noise sources affecting the Project site and would be partially shielded by the proposed residential units. Exterior noise levels at these common use areas would be less than 65 CNEL and would be considered compatible with the proposed land use. Based on the Master Plan EIR noise study, residential uses proposed in the Project would be exposed to exterior noise levels less than 60 CNEL given the distance

from local roadways and noise-producing commercial uses, the fire station, and animal shelter. This would be considered a less-than-significant noise impact, .

To further reduce construction noise impacts to less-than-significant levels, the Master Plan EIR requires Mitigation Measures discussed below to be incorporated by the Project into its grading and construction plans. By incorporating the Mitigation Measures, the Project does not conflict with land use compatibility guidelines for land uses contained in the Napa General Plan.

b) The Project would not subject people to increased noise along existing and new roadways to levels that exceed 65 Ldn ("normally acceptable") and a traffic noise increase of at least 3 dBA.

The Project would result in increased vehicular traffic along Oil Company Road, which would increase the frequency of auto pass-bys and the character of the noise affecting these receivers. Future noise levels would primarily result from Project traffic along Oil Company Road plus distant traffic along Soscol Avenue and intermittent commercial and railroad events. CNEL noise levels would increase by 2 dBA over existing conditions to approximately 62 CNEL at the existing residential land uses. Project-generated vehicular traffic would not result in a substantial permanent increase to the noise environment at noise-sensitive receivers north of the Project site along Oil Company Road.

Because the Project's traffic levels are within those anticipated by the Master Plan and within the amounts analyzed in the Master Plan EIR, and because construction noise must comply with the Mitigation Measures described above, the Project would not expose people to increased noise along existing and new roadways to levels that exceed 65 Ldn ("normally acceptable") and a traffic noise increase of at least 3 dBA.

c) The Project would not expose persons to or generate excessive ground borne vibration or ground borne noise levels.

The Master Plan EIR evaluated the impacts of excess groundborne vibration or noise levels. Railroad trains are potential sources of groundborne vibration. The Master Plan EIR disclosed that the future use of the tracks is unknown at that time; the NVWT envisions a daily freight train of about five to 15 cars and three passenger train turnarounds during daytime hours. Commute trains are also contemplated along this line, which would increase the frequency of vibration events; however, details are still unavailable at this time. The nearest proposed residential units at the Gasser North parcel would be setback approximately 80 feet from the center of the near track. At this distance, vibration levels generated during railroad train passbys could be perceptible but would not likely exceed the infrequent event threshold (80 VdB) established by the Federal Transit Administration for compatible land uses in the vicinity of transit systems. This conclusion is based on previous vibration measurements of train passbys conducted by Illingworth & Rodkin, Inc., given the infrequent use of the railroad, the time of day that the events occur. Based on the analysis in the Master Plan EIR, and the Project's consistency with the EIR, this would be a less-than-significant impact.

Because the Project is located within the Master Plan area and is designed consistent with the requirements of the approved Master Plan regulations and guidelines, as analyzed in the Master plan EIR, it is within the Scope of the Master Plan EIR. As such, the Project would not expose persons to or generate excessive ground borne vibration or noise levels beyond what was analyzed within the Master Plan EIR.

d) The Project would not expose people residing or working in the Planning Area to excessive noise levels within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, or a private airstrip.

The Project site is not within the noise contours of any private airstrips and would not expose people residing or working in the Project area to excessive aircraft-related noise from private air-strips. The Master Plan EIR found that development pursuant to the Master Plan would construct noise-sensitive uses over four miles from the Napa Airport. Noise generated by aircraft would intermittently affect noise levels at the Project site during over-flights. Typical aircraft over-flights generate maximum instantaneous noise levels of approximately 70 to 75 dBA. Although the Project site is occasionally affected by aircraft noise, the site is located well outside of the aircraft noise contours established for the Napa Airport. Where noise levels are less than 65 dBA CNEL, residential land uses are considered compatible with the exterior noise environment. As a result, the proposed residential uses would be compatible with aircraft noise. Therefore, this is a less-than-significant impact as it relates to the Project.

Mitigating Policies and implementing programs:

The Master Plan EIR concluded that implementation of the Napa General Plan Policies in the Health and Safety Element would reduce the potential for excessive noise from construction activities and Downtown development: Policy HS-9.1, HS-9.2, HS-9.6, HS-9.7, HS-9.8, HS-9.9, HS-9.10, HS-9.11, HS-9.13, HS-9.14.

The Master Plan EIR concluded that the implementation of the Napa General Plan Policies in the Health and Safety Element would help reduce the potential for excessive groundborne noise and groundborne vibration: Policy HS-9.2, HS-9.9, HS-9.11, HS-9.14. These policies would ensure that new development does not exceed City standards (HS-9.2), limits construction activities (HS-9.9), protects noise sensitive land uses (HS-9.11), and includes site planning techniques to limit noise and vibration impacts (HS-9.14).

The Project shall comply with Mitigation Measures and Implementation Procedures:

MM Noise 1

MM Noise 2

Implementation of the Mitigation Measures described above would reduce noise exposure impacts to a less-than-significant level.

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant noise and vibration impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant noise and vibration impact.

4. There is no new information of substantial importance showing that significant noise and vibration impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.L - Population and Housing

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
POPULATION AND HOUSING. *Would the project:*				
a. Substantial unanticipated population, housing, or employment growth in excess of local share of regional projections that has the potential to result in adverse physical environmental effects.				X
b. Displacement of existing residents or housing units.				X

The Project was examined and compared to the analysis in the Master Plan EIR as it pertains to population and housing to determine whether the Project is within the scope of the development contemplated by the Master Plan and whether it could result in new effects that were not identified and addressed in the Master Plan EIR. Based on this review and as detailed below, the Project is within the scope of the Master Plan development program and would not result in any new significant environmental effects relating to population and housing.

The would be designed and constructed in a manner that is consistent with the development analyzed in the Master Plan EIR. As such, the Project would not create new or greater impacts to population and housing that were not disclosed in the Master Plan EIR or propose changes that require revisions to that EIR. In addition, no substantial changes with respect to circumstances under which the Project is undertaken or the discovery of new important information has occurred since the Master Plan EIR was completed and certified that would require revisions to the Master Plan EIR. Therefore, the Project would not result in any new or more severe impacts with respect to population and housing that were not previously analyzed and disclosed in the Master Plan EIR, and no further environmental analysis is required.

As explained below, the Project would not result in any new environmental effects relating to population and housing that were not identified and addressed in the Master Plan EIR.

a) The Project would not cause substantial unanticipated population, housing, or employment growth in excess of local share of regional projections that has the potential to result in adverse physical environmental effects.

The Master Plan EIR analyzed development under the Master Plan, including that the development of Gasser North would add up to 500 housing units, 282 of which are now proposed by the Project, which equated to the addition of approximately 1,325 people in market housing. It found that growth directly resulting from the Project would amount to less than one-tenth of one percent of the regional increment. It also found that the population generated by the Project would account for about 27 percent of the total expected population increase between 2005 and 2020. However, using ABAG projections, the population

generated by the Project would only account for about 20 percent of the total increase from 2005 to 2020. Despite the potential for the proposed 500 Master Plan units to contribute to the city's population growth to 2020 by as much as 30 percent, the EIR found that since the General Plan anticipated this growth, the proposed Project would not result in a substantial unanticipated population increase and the impact is less-than- significant. Because the Project does not exceed the 500 units planned for, it does not result in substantial population, housing, or employment growth in excess of that analyzed in the Master Plan EIR and planned for under local and regional projections.

b) The Project would not cause displacement of existing residents or housing units.

The Master Plan EIR concluded that since the Master Plan are is presently undeveloped and contains no housing or residents, development on the site would not displace any people. Thus, it concluded that there is no impact. The Project is within the Master Plan area on undeveloped lands. Therefore, the Project will not displace existing residents or housing units.

Mitigating Policies and implementing programs:

No Mitigation required.

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant population and housing impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant population and housing impact.

4. There is no new information of substantial importance showing that significant population and housing impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.M - Recreation and Open Space

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
RECREATION AND OPEN SPACE. *Would the project:*				
a. Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.				X
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.				X

The Project was examined and compared to the analysis in the Master Plan EIR as it pertains to recreation and open space to determine whether the Project is within the scope of the development contemplated by the Master Plan and whether it could result in new effects that were not identified and addressed in the Master Plan EIR. Based on this review and as detailed below, the Project is within the scope of the Master Plan development program and would not result in any new significant environmental effects relating to recreation and open space.

The Project would be designed and constructed in a manner that is consistent with the development analyzed in the EIR. As such, the Project would not create new or greater impacts to recreation and open space that were not disclosed in the Master Plan EIR or propose changes that require revisions to that Master Plan EIR. In addition, no substantial changes with respect to circumstances under which the Project is undertaken or the discovery of new important information has occurred since the Master Plan EIR was completed and certified that would require revisions to the Master Plan EIR. Therefore, the Project would not result in any new or more severe impacts with respect to recreation and open space that were not previously analyzed and disclosed in the Master Plan EIR, and no future environmental analysis is required.

As explained below, the Project would not result in any new environmental effects relating to recreation and open space that were not identified and addressed in the Master Plan EIR.

a) The Project would not increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

The Master Plan EIR evaluated development facilitated by the Master Plan for conformity with the goals and policies of the City's General Plan related to parks and recreation within the Public Services Element of the Master Plan EIR. The Master Plan EIR concluded that the Master Plan, a regulatory program, would not directly physically degrade any existing recreational resources in the Planning Area. The

Master Plan EIR found that the Master Plan's proposed 500 residential units increase the area's residential population, increasing potential demand for parkland.

The Project would provide recreational opportunities for future residents of the Project area through public trails and the proposed community center/recreational facility. The Master Plan EIR found that the Project's recreational facility would offset the potential increased use of the city's parks and recreational facilities by future Project residents, but it would not be expected to entirely mitigate potential impacts. Thus, the demand for additional parkland was considered a potentially significant impact. The Master Plan EIR found that this impact would be reduced to a less-than-significant level with the implementation of the City's standard mitigation measures in Policy Resolution 27 requiring compliance with the Municipal Code based payments of parkland fees. The Project must pay its parkland fees at the time of building permit. With the inclusion of the recreation opportunities and implementation of the Master Plan EIR's mitigation measure to comply with the City's standard mitigation measures in Policy Resolution 27 to pay parkland fees, the Project's impact is reduced to a less-than-significant level.

b) The Project would not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

The Master Plan EIR analyzed the proposed trail systems proposed by the Master Plan, including those related to the Project that are now being proposed for construction. The Master Plan EIR found that since some trails proposed under the Master Plan would be constructed near wetlands and the creek, the potential exists for their construction to impact biological and hydrological resources. It further found that the environmental impacts of constructing the trails proposed under the Master Plan were addressed in other sections of the Master Plan EIR, specifically the mitigation measures in Sections 4.7, Biological Resources; and 4.4, Hydrology and Water Quality. The Master Plan EIR found that these measures would mitigate potential impacts to biological and hydrological resources during construction of new trails to a less-than-significant level; and, potential impacts to water quality from construction activities related to trail construction would be mitigated to less-than-significant levels by implementing mitigation measures presented in Section 4.4, Hydrology and Water Quality. In addition, the Master Plan EIR disclosed that the impacts associated with the Tulocay Creek Trail were already evaluated in a prior EIR/EIS for Napa River Flood Protection Project.

The Project's proposed trails are therefore consistent with the Mater Plan and the Master Plan EIR's analysis provided that the Mitigation Measures required by the Master Plan EIR are implemented.

At the time of the Master Plan EIR, the then proposed Master Plan proposed a community center for Project residents, but did not provide design specific beyond its size and location. Construction of a community center structure was therefore evaluated in the Master Plan EIR. Included with Project's Design Review submittal to the City is the final design for the community center, which is consistent with the prior environmental analysis in the Master Plan EIR. Because Design Review is required, and

because the Master Plan EIR did not identify mitigation beyond what is required for the other structures and overall development of the Project site, the recreation center building would not have an adverse physical effect on the environment beyond the level analyzed in the EIR.

Mitigating Policies and implementing programs:
The Project must comply with the following mitigation measures.

- PUB-5.

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant recreation and open space impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant recreation and open space impact.

4. There is no new information of substantial importance showing that significant recreation and open space impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.N – Transportation and Traffic

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
TRANSPORTATION AND TRAFFIC. *Would the project:*				
a. When a signalized intersection operates at midrange LOS D (as allowed by the General Plan in most locations) or better under existing or interim baseline conditions, the addition of project trips degrades the intersection operations to LOS E or LOS F. The project mitigation should bring the facility to operate at midrange LOS D, at a minimum.				X
b. When a signalized intersection operates at midrange LOS E (as allowed by the General Plan in some locations and for state highway facilities) or better under existing or interim baseline conditions, the addition of project trips degrades the intersection operations to LOS F. The project mitigation should bring the facility to operate at midrange LOS E, at a minimum.				X
c. When a signalized intersection operates at LOS F (a violation of the General Plan LOS policy) under existing or interim baseline conditions, the addition of more than 50 peak-hour project trips contributes to the continuing operational failure at the intersection. The project mitigation should bring the facility to pre-project conditions.				X
d. At an unsignalized intersection when the minor stop-controlled approach operates at LOS E or better or has acceptable operation in terms of total control delay, the addition of project trips increases the total control delay to more than 4.0 vehicle-hours for a single lane approach or 5.0 vehicle-hours for a multilane approach. The project mitigation should bring the facility to operate at LOS E or to bring the total control delay to less than 4.0 vehicle- hours for a single lane approach or 5.0 vehicle-hours for a multilane approach, at a minimum.				X
e. At an unsignalized intersection when the minor stop-controlled approach operates at LOS F and does not have acceptable operation in terms of total control delay the addition of more than 50 peak-hour project trips contributes to the continuing operational failure at the minor approach. The project mitigation should bring the facility to pre-project conditions.				X
f. If the proposed project is on a Crucial Corridor and the property is zoned Traffic Impact Overlay (TI); the project generates more than 520 trips/gross acre/day (or gross floor area equivalent). Uses with higher trip generation characteristics are prohibited unless: i. Adjustments in the gross floor area, gross acreage, operation, etc., are made to reduce the number of trips to an acceptable level as determined by the Public Works Director, or ii. The Public Works Director finds that the transportation benefits of the project clearly outweigh the adverse effect on the crucial corridor. Transportation benefits of the project may include roadway and safety improvements, traffic system management strategies, transit service enhancements, travel demand management strategies, among others.				X

The Project was examined and compared to the analysis in the Master Plan EIR as it pertains to transportation and traffic to determine whether the Project is within the scope of the development contemplated by the Master Plan and whether it could result in new effects that were not identified and addressed in the Master Plan EIR. Based on this review and as detailed below, the Project is within the scope of the Master Plan development program and would not result in any new significant environmental effects relating to transportation and traffic.

To fall within the scope of the Master Plan, the transportation impacts of the Project must fall within the overall parameters for the Master Plan established under the Master Plan EIR. The Project would be designed and constructed in a manner that is consistent with the development analyzed in the Master Plan EIR. As such, the Project would not create new or greater impacts to transportation and traffic that were not disclosed in the Master Plan EIR or propose changes that require revisions to that EIR. In addition, no substantial changes with respect to circumstances under which the Project is undertaken or the discovery of new important information has occurred since the Master Plan EIR was completed and certified that would require revisions to the EIR. Therefore, the Project would not result in any new or more severe impacts with respect to transportation and traffic that were not previously analyzed and disclosed in the Master Plan EIR, and no further environmental analysis is required.

Traffic Report

Site specific operational impacts from the Project and build-out of the Master Plan were reviewed in the analysis completed by Crane Transportation Group in their November 2, 2015 report, Gasser North Master Plan Traffic Study (the "Traffic Report"). The Traffic Report is included as Appendix B. The Traffic Report was prepared to analyze the traffic impacts associated with the full buildout of Gasser North, including the implementation of the entire Project. The Traffic Report serves as additional evaluation of the impacts related to the Project, as well as the future buildout of office and commercial components of Gasser North and additional background traffic, within the context of the traffic impacts analyzed for the Master Plan EIR. Based on the analysis described in the Traffic Report, the Project is anticipated to create no greater traffic impacts than assumed in the Master Plan EIR.

The Traffic Report reviewed Project impacts in relation to the Master Plan EIR as well as additional studies. The Master Plan EIR contained a traffic impact analysis, which was based upon 2005 baseline, 2010 buildout and 2020 cumulative condition volumes for off-site roadways and intersections. The Master Plan EIR traffic analysis assumed that development would be phased, and identified impacts and mitigation measures to address those impacts. The Master Plan EIR traffic analysis contemplated additional evaluation of the timing for proposed facility improvements may be necessary. In this case, the phasing has been delayed compared to the timeline in the Master Plan development, which includes the related traffic improvements.

At City direction, the Traffic Report's analysis was conducted for the years 2014, 2018 and 2020 horizons. The Traffic Report was based upon prior studies prepared by Crane Transportation Group: the *Traffic Impact Report for the Gasser North Master Plan Development (7/3/12)* and the *Traffic Impact Report Addendum #1 for the Gasser North Master Plan Development (Tulocay Subdivision and Tulocay Commercial) Year 2020 Cumulative Operating conditions Without Gasser Drive Extended from Kansas Avenue to Soscol Avenue and No Realignment of Silverado Trail at Soscol Avenue (8/20/2012)* and the *Traffic Impact Report for the Tulocay Village Apartment Homes Project, North Gasser Master Plan Residential Component (8/14/14).* Traffic counts conducted by Crane Transportation Group during summer 2014 were used to update the base for the 2014 volumes, and the new counts in conjunction with a traffic study for the Napa Sanitation District (NSD) were used to factor volumes for other intersections in 2020.

The Traffic Report analyzed "without bridge" scenarios and uses updated traffic volumes and development information to verify what mitigation measures would be needed and at what Date/development phase. It also analyzes "with bridge" scenarios to show that at full buildout of Gasser North, the inclusion of a smaller bridge than originally analyzed in the Master Plan EIR would sufficiently mitigate impacts from the development, and would not result in any new significant impacts or impacts greater than analyzed in the Master Plan EIR. The "bridge" refers to construction of a two-lane, two-way bridge (i.e., one-lane each direction) over Tulocay Creek at the south end of the Master Plan development as well as the extension of Gasser Drive across the creek. Measures were identified in the Master Plan EIR to mitigate all significant impacts to a less-than-significant level (i.e., back to "without project" conditions).

The Traffic Report analyzed weekday (Thursday) PM peak hour intersection level of service impacts at six intersections (without bridge) or seven intersections (with bridge) for the following development phases:

- Year 2014 Without Project
- Year 2014 With 500 Apartments in Gasser North
- Year 2018 Without Project
- Year 2018 With 500 Apartments in Gasser North
- Year 2018 With Buildout of Gasser North – without Gasser Drive Extension and
- Bridge
- Year 2018 With Buildout of Gasser North – with Gasser Drive Extension and Bridge
- Year 2020 Without Project
- Year 2020 With 500 Apartments in Gasser North
- Year 2020 With 500 Apartments and 72,000 sq. ft. Commercial in Gasser North - without Gasser Drive Extension and Bridge

- Year 2020 With Buildout of Gasser North – without Gasser Drive Extension and Bridge
- Year 2020 With Buildout of Gasser North – with Gasser Drive Extension and Bridge

The Traffic Report analyzed weekday (Thursday) PM peak hour 2014, 2018 and 2020 operation at the following intersections:

- Soscol Avenue/Oil Company Road-Sousa Lane (stop sign control)
- Soscol Avenue/Project Driveway (signal)
- Soscol Avenue/Gasser Drive (stop sign control)
- Soscol Avenue/Silverado Trail (signal)
- Soscol Avenue/Kansas Avenue (signal)
- Imola Avenue/Soscol Avenue (signal)
- Imola Avenue/Gasser Drive (signal)
- Gasser Drive/Kansas Avenue (signal) [applies to "with bridge" scenarios]

The Gasser North Master Plan trip generation is shown in **Table T1**. Trip rates utilized have come from the traffic engineering profession's standard source of trip rate data, "*Trip Generation Manual*, 9th Edition, by the Institute of Transportation Engineers (ITE) 2012. Passby capture and internal capture have been taken into account for the shopping center.

Table T1

500 UNIT TRIP GENERATION
GASSER NORTH

DEVEL-OPMENT	USE	SIZE	PM PEAK HOUR TRIPS INBOUND RATE	INBOUND VOL	OUTBOUND RATE	OUTBOUND VOL
Gasser North	Apartments	500	.403	**201**	.217	**109**
	Shopping Center – gross trips	72,000 SF	**	231	**	250
	- trips eliminated due to existing shopping center site traffic (RV sales and towing)			-4		-5
	- passby capture from Soscol Avenue and internal capture from Project Residential			-68		-68
	Net New Shopping Center Trips			**159**		**177**
	Creekside E (Retail)	40,000 SF	1.19	**48**	1.52	**61**
	Creekside W (Office)	26,000 SF	.25	**7**	1.24	**32**
TOTAL				**415**		**379**

Volumes shown in bold typeface are included in the total.
** Ln(T) = .67Ln,(X) + 3.31 (48% in/52% out), Ln = Natural Log, X = Size in 1,000 square feet, T = Trips

Project traffic was distributed to the local roadway network based upon guidance from the 2006 Gasser Master Plan EIR Circulation Analysis and traffic modeling – see **Table T2**.

Table T2

500 UNIT TRIP DISTRIBUTION

LOCATION	RESIDENTIAL INBOUND	RESIDENTIAL OUTBOND
To/From the North on Soscol Avenue	30%	21%
To/From the East on Sousa Lane and Silverado Trail	12%	12%
To/From the West on Imola Avenue West of Gasser Drive	38%	40%
To/From the East of Soscol Avenue on Kansas Avenue/Shetler Avenue/Imola Avenue	3%	3%
To/From the South on Soscol Avenue South of Imola Avenue	10%	9%
To/From the South Napa Marketplace	7%	15%
TOTAL	**100%**	**100%**

For purposes of the Project, this Addendum uses year 2020 with 500 apartments in Gasser North, representing the Project plus full build out of the residential units for its impact analysis, as contemplated in the Master Plan EIR. This scenario is used for the addendum as a "worst case" scenario as this scenario has no bridge and the highest traffic volumes of any Project scenario, over estimating the significance of Traffic. Under those scenarios, with mitigation and the bridge, impacts are reduced to a less-than-significant.

Under the 2020 Project scenario, the primary project access would be provided via a signalized intersection along Soscol Avenue (Project Driveway), located between Oil Company Road and Silverado Trail. Secondary access would be via a realigned Oil Company Road at the north end of the site and via a short segment of Gasser Drive. The Gasser Drive and Oil Company Road approaches to Soscol Avenue would be limited to right turns in and out only, with stop sign control. In addition, at City direction Soscol Avenue has been assumed widened to six lanes south of Silverado Trail, consistent with the Master Plan EIR.

This Addendum focuses on the Traffic Report's analysis of whether full residential buildout of the Project (i.e. the instant Project's 282 units plus the additional 218 units contemplated by the Master Plan) will result in any new significant traffic impacts that were not analyzed in the Master Plan EIR, "without" and "with" the extension of Gasser Drive and a new bridge over Tulocay Creek. The Traffic Report is incorporated by reference. The Traffic Report and this Addendum also may be used for future buildout analysis at Gasser North which is analyzed in the Traffic Report.

IMPACT ANALYSIS

Where applicable, the Master Plan EIR impact and mitigation numbers are referenced. Many impacts identified in the Master Plan EIR have been addressed in subsequent studies, such as *Traffic Impact Report for the Tulocay Village Apartment Homes Project, North Gasser Master Plan Residential Component (8/14/14),* the *Traffic Impact Report for the Gasser North Master Plan Development (7/3/12)* and the *Traffic Impact Report Addendum #1 for the Gasser North Master Plan Development (Tulocay Subdivision and Tulocay Commercial) Year 2020 Cumulative Operating conditions Without Gasser Drive Extended from Kansas Avenue to Soscol Avenue and No Realignment of Silverado Trail at Soscol Avenue (8/20/2012*).

The Traffic Study did not identify new significant traffic impacts that were not previously analyzed or substantial increases in the severity of previously identified significant impacts, and therefore there are no new mitigation measures from those required in the EIR. However, specific design, timing or other aspects of implementing certain conditions of approval that implement mitigation measures may be modified to reflect current conditions. These are described below, and result in mitigating impacts to acceptable levels (in some cases acceptable means back to "without project" conditions), as required by

the City of Napa's Guidelines for Determination of Significant Impacts in its *Policy Guidelines: Traffic Impact Analysis (2006-5-12).*

The City of Napa provides Guidelines for Determination of Significant Impacts in its *Policy Guidelines: Traffic Impact Analysis 2005-5-12).* Criteria applicable to the Project are as follows and are consistent with those presented in the Master Plan EIR.

a) *When a **signalized intersection** operates at midrange LOS D or better under existing or interim baseline conditions, the addition of project trips degrades the intersection operations to poorer than midrange LOS D, LOS E or LOS F. The project mitigation should bring the facility to operate at midrange LOS D, at a minimum.*

Transportation engineers and planners commonly use a grading system called level of service (LOS) to measure and describe the operational status of the local roadway network. LOS is a description of the quality of a roadway facility's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). Intersections, rather than roadway segments between intersections, are almost always the capacity controlling locations for any circulation system. This analysis methodology is consistent with the City of Napa Guidelines for Traffic Studies and with the analyses conducted for the Master Plan EIR.

For signalized intersections, the 2000 *Highway Capacity Manual* (Transportation Research Board, National Research Council) methodology was utilized. With this methodology, operations are defined by the level of service and average control delay per vehicle (measured in seconds) for the entire intersection. For a signalized intersection, control delay is the portion of the total delay attributed to traffic signal operation. This includes delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table T3** summarizes the relationship between delay and LOS for signalized intersections.

Table T3

SIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	> 80.0

The City of Napa established mid-range LOS D as the minimum acceptable operation for all signalized intersections in Policy T-2.1 of the General Plan. This translates as an allowable average delay of 45 seconds or less at signalized intersections. However, this policy includes exceptions: mid-range LOS E is the minimum acceptable level of service along state highways, which include the signalized Silverado Trail and Kansas Avenue intersections, and the Imola Avenue/Gasser Drive intersection.

Table T4 shows that with 500 Apartments, only, in Gasser North – without Gasser Drive extension and bridge 2020 PM peak hour volumes, three analysis intersections would be experiencing unacceptable level of service operation.

- Soscol Avenue/Project Driveway (signal): Operation would be LOS D with 50.7 seconds control delay.
- Soscol Avenue/Kansas Avenue (signal): Operation would be LOS F with 82.3 seconds control delay.
- Soscol Avenue/Imola Avenue (signal): Operation would be LOS F with 148.0 seconds control delay.

Table T4

INTERSECTION LEVEL OF SERVICE
YEAR 2020

LOCATION	PM PEAK HOUR				
	Without Gasser North	With 500 Apt Units, only, in Gasser North (w/o bridge)	With 500 Apt Units plus 72,000 sq ft Commercial in Gasser North (w/o bridge)	With Buildout Gasser North (w/o bridge)	With Buildout Gasser North (with bridge)
Soscol Avenue (S.R. 121)/Sousa Lane – Oil Company Road (Unsignalized)	F*/F*	C-24.9/ B-11.9	D-26.5/ B-11.8	D-27.0/B-11.9	D-27.0/C-17.3
Soscol Ave. /Project Driveway (Signal)	NA	D-50.7	D-52.0	D-53.7	D-41.6
Soscol Ave/Gasser Drive(unsignalized)	NA	B-12.1	B-12.0	B-12.8	B-12.0
Soscol Avenue (S.R. 121)/Silverado Trail (Signal)	F-94.2	F-92.9	F-95.9	F-98.5	F-96.4
Soscol Avenue (S.R. 121)/Kansas Ave. (Signal)	E-73.3	F-82.3	F-87.9	F-91.7	E-72.3
Soscol Avenue (S.R. 121)/Imola Ave. (Signal)	F-143.9	F-148.0	F-153.1	F-155.1	F-151.8
Kansas Ave./Gasser Drive (Signal)	NA	NA	NA	NA	D-40.1
Imola Avenue (S.R. 121)/Gasser Drive (Signal)	C-20.0	C-23.0	C-25.0	C-26.0	C-25.2

F* = No delay values are provided by the software, indicating extreme delay.

The Project would add more than 50 trips to PM peak hour volumes at these intersections, indicating a potential significant Project impact, consistent with the EIR.

At the Soscol Avenue signalized intersection with Silverado Trail, operation would be an acceptable LOS F with 92.9 seconds control delay; although this intersection is experiencing LOS F, the control delay is a lower F (92.9 versus 94.2) than would be experienced in the 2020 without Project condition, resulting in an acceptable LOS for this intersection in the 2020 with 500 apartment unit scenario. At the Imola Avenue/Gasser Drive intersection operation would be an acceptable LOS C with 23.0 seconds control delay, with signal timing optimized to facilitate meeting queue storage limits. The City conducted this analysis to determine whether the Project as currently proposed would cause new or more severe traffic

impacts than those identified in the EIR. The City also wanted to conduct this analysis in the unlikely event the bridge is not fully completed by 2020. In addition, the location of the entry has shifted from Oil Company Road to the present location; however, that change in the Project is not considered substantial new information because the EIR assumed a Project entrance but in a slightly different location. This change was entrance location was analyzed in the Traffic Report. It did not create any new traffic impacts or increase the severity of previously identified impacts that were identified and addressed in the EIR. The unacceptable level of service would be a significant impact, without mitigation. The mitigation measures discussed below reduce the impact to less than significant in a manner consistent with the Master Plan EIR.

Mitigation to acceptable Intersection Level of Service (see Table T5)

- **Soscol Avenue/Project Driveway**

1. Add an additional northbound left turn lane, resulting in two northbound left turn lanes and two northbound through lanes, with Mitigated Lane Geometrics as depicted on figure 22.

Resultant PM peak hour operation with added left turn lane: LOS D-40.9 seconds, below mid-range LOS D, and consistent with City standards for intersection operation.

Table T5

MITIGATED INTERSECTION LEVEL OF SERVICE
YEAR 2020

LOCATION	PM PEAK HOUR				
	Without Project	With 500 Apartments in Gasser North (w/o bridge)	With 500 Apts & 72,000 sq ft Commercial in Gasser North (w/o bridge)	With Buildout of Gasser North (w/o bridge)	With Buildout of Gasser North (with bridge)
Soscol Avenue (S.R. 121)/Project Driveway (Signal)	NA	D-40.9	D-41.3	D-43.4	NA
Soscol Avenue (S.R. 121)/Silverado Trail (Signal)	F-94.2	F-92.9	C-34.5	D-38.0	C-27.3
Soscol Avenue (S.R. 121)/Kansas Ave. (Signal)	E-73.3	E-66.9	E-72.0	E-72.3	E-72.3
Soscol Avenue (S.R. 121)/Imola Ave. (Signal)	F-143.9	F-132.(	F-134.3	F-142.4	F-138.6

The 2006 Master Plan EIR found that intersection improvements were needed as part of signal relocation – the signal was moved to Project Driveway. The Master Plan EIR concluded that implementation of **Mitigation Measure TRA-7,** consisting of intersection improvements, would require a study to determine specific improvements that would reduce the impacts to a less-than-significant level. The current study found that the intersection Level of Service could be mitigated to meet the City's standard of operation for this intersection (mid-range LOS D – 45.0 seconds control delay) by providing a second northbound left turn lane if the bridge is not built. Because the Project is required to comply with **Mitigation Measure TRA-7**, construction of the Project would not result in any new or more severe impacts with respect to **Impact TRA-7** than were previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-7 was imposed as COA 27 to the approval of the Master Plan.

2. As an alternative to adding an additional northbound left turn lane on Soscol for the Soscol Avenue/Project Driveway intersection, extend Gasser Drive and construct the bridge over Tulocay Creek - see the "with bridge" results in Table T5, with intersection operation at an acceptable LOS D-41.6 in 2020 with Gasser North buildout, with eastbound Project entrance as depicted on figure 22, and the westbound receiving lane. Results would be further improved if Gasser North development is limited to 500 apartments.

- **Soscol Avenue/Kansas Avenue**

Add an additional northbound Soscol Avenue right turn lane, resulting in northbound one left lane, three through lanes and a separate right turn lane. Resultant August Thursday PM peak hour operation: LOS E – 66.9.

Alternatively, Extend Gasser Drive and construct the bridge over Tulocay Creek - see the "with bridge" results in Table 7, with intersection operation at an acceptable LOS E-72.3 with Gasser North Buildout. With only 500 apartments in Gasser North, the LOS would be further improved.

- **Soscol Avenue/Imola Avenue**

Add an additional exclusive eastbound left turn lane, resulting one right, one through, and two left turn lanes. Add an exclusive westbound right turn lane, resulting in one left, one through and one right turn lane.

Resultant PM peak hour operation: LOS F-132.2 seconds, an improvement over the without Gasser North project LOS F- 143.9 seconds.

The Master Plan EIR found in **Impact TRA-20: Imola Avenue/Soscol Avenue** that the Project volume contribution to this intersection would result in a significant impact. The Master Plan EIR concluded that

implementation of **Mitigation Measure TRA-20, consisting of designing and constructing the intersection improvement,** would reduce the impacts to a less-than-significant level because the intersection Level of Service could be mitigated back to "without project" conditions. Because the Project is required to comply with **Mitigation Measure TRA-20**, construction of the Project would not result in any new or more severe impacts with respect to **Impact TRA-20** than were previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-20 was imposed as COA 33 to the approval of the Master Plan, and must be revised for timing of the improvement. As described above, mitigation would bring LOS operation back to "without project" levels for LOS, to a less-than-significant level.

b) *When a **signalized state highway or CBD intersection** operates at poorer than midrange 'LOS E' or at LOS 'F' (a violation of the General Plan LOS policy) under existing or interim baseline conditions, the addition of more than 50 peak hour project trips contributes to the continuing operational failure at the intersection. The project mitigation should bring the facility to pre-project conditions.*

The analysis under section a) above also addresses all impacts under this section. In summary, year 2020 With 500 Apartments, only, in Gasser North–without Gasser Drive extension and bridge traffic volumes would result in a significant PM peak hour intersection level of service impact at three signalized intersections: Soscol Avenue/Project Access, Soscol Avenue/Kansas Avenue and Soscol Avenue/Imola Avenue.

The Master Plan EIR found in **Impact TRA-20: Imola Avenue/Soscol Avenue** that the Project volume contribution to this intersection would result in a significant impact. The Master Plan EIR concluded that implementation of **Mitigation Measure TRA-20, consisting of designing and constructing the intersection improvement,** would reduce the impacts to a less-than-significant level because the intersection Level of Service could be mitigated back to "without project" conditions. Because the Project is required to comply with **Mitigation Measure TRA-20**, construction of the Project would not result in any new or more severe impacts with respect to **Impact TRA-20** than were previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-20 was imposed as COA 33 to the approval of the Master Plan, and must be revised for timing of the improvement. As described above, mitigation would bring LOS operation back to "without project" levels for LOS, to a less-than-significant level.

c) *At an **unsignalized intersection** when the minor stop-sign controlled approach operates at LOS 'E' or better has acceptable operation in terms of total control delay, the addition of project trips increases the total control delay to more than 4.0 vehicle-hours for a single lane approach or 5.0 vehicle hours for a multi-lane approach. The project mitigation should bring the facility to operate at LOS E or to bring total control delay to less than 4.0 vehicle-hours for a single lane approach or 5.0 vehicle-hours for a multilane approach, at a minimum.*

Unsignalized Intersections. For unsignalized (all-way stop-controlled and side-street stop-controlled) intersections, the 2000 Highway Capacity Manual (Transportation Research Board, National Research Council) methodology for unsignalized intersections was utilized. For side-street stop-controlled intersections, operations are defined by the level of service and average control delay per vehicle (measured in seconds), with delay typically represented for the stop sign controlled approaches or turn movements. For all-way stop-controlled intersections, operations are defined by the average control delay for the entire intersection (measured in seconds per vehicle). The delay at an unsignalized intersection incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table T6** summarizes the relationship between delay and LOS for unsignalized intersections.

Table T6

UNSIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	*Description*	Average Control Delay (Seconds Per Vehicle)
A	Little or no delays	≤ 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded (for an all-way stop), or with approach/turn movement capacity exceeded (for a side street stop controlled intersection)	> 50.0

Per City of Napa Policy Guidelines for Traffic Impact Analysis, the minimum acceptable level of service for unsignalized intersections is midrange LOS E. The Project would not result in any midrange LOS E or worse. Therefore, no new environmental effects relating to transportation and traffic that were identified in the Master Plan EIR.

Specifically within the study intersections, the Soscol Avenue stop sign controlled intersection with Oil Company Road-Sousa Lane, operation would be LOS C or better on both the eastbound and westbound approaches; at the Soscol Avenue stop sign controlled intersection with Gasser Drive, operation would be an acceptable LOS B with 12.1 seconds control delay.

The Traffic Report did not identify new significant impacts that were not previously analyzed or substantial increases in the severity of previously identified impacts to signalized intersections in the Master Plan EIR, Therefore the impacts would be less-than-significant, and no mitigation measures are required.

d) *At an* ***unsignalized intersection*** *when the minor stop-sign controlled approach operates at LOS 'F' and does not have acceptable operation in terms of total control delay, the addition of more than 50 peak hour project trips contributes to the continuing operational failure at the minor approach. The project mitigation should bring the facility to pre-project conditions.*

No minor stop sign controlled intersections are impacted. The analysis under Section c) above addresses all unsignalized intersection impacts and improvements. Because the Traffic Study did not identify new significant impacts that were not previously analyzed or substantial increases in the severity of previously identified impacts to signalized intersections, and therefore there are no significant impacts and no mitigation measures are required.

e. *A project impact is considered significant if project traffic would increase acceptable "without project" 95th percentile vehicle queuing on the approaches to signalized intersections selected for evaluation to unacceptable levels (i.e., exceeding the storage lane capacity), or add any traffic to existing unacceptable levels.*

Table T7 shows the 95th percentile vehicle queuing at the Imola Avenue/Gasser Drive intersection would not increase beyond available storage in either the Imola Avenue eastbound approach left turn lanes or the westbound approach through lanes. During the PM peak hour, the period with the longest queues, the dual left turn lanes on the eastbound Imola Avenue approach would have a 250-foot queue demand per lane with 275 feet of storage per lane, while the westbound through lanes would have a 400-foot queue demand per lane with 475 feet of storage per lane.

Table T7

95TH PERCENTILE VEHICLE QUEUES
IMOLA AVENUE/GASSER DRIVE INTERSECTION
YEAR 2020 CONDITIONS

STREET	APPROACH	# LANES	STORAGE (IN FEET/ LANE)	YEAR 2020 QUEUE/ LANE (FEET PER LANE WITHOUT GASSER NORTH	STORAGE DEMAND IN FEET PER LANE WITH 500 APT UNITS, ONLY. IN GASSER NORTH (W/O BRIDGE)	STORAGE DEMAND IN FEET PER LANE WITH 500 APT UNITS PLUS 72 K COMMERCIAL IN GASSER NORTH (W/O BRIDGE)	YEAR 2020 QUEUE/LANE WITH BUILDOUT GASSER NORTH (W/O BRIDGE)	YEAR 2020 QUEUE/LANE WITH BUILDOUT GASSER NORTH WITH BRIDGE
Imola Ave.	EB left turn	2 Lanes	275'	225	250	250	250	275
	WB thru lanes	2 lanes	475'	400	400	475	425	400
Gasser Dr.	SB right turn	2 lanes	750'	200	200	200	225	250
	SB left turn	1 lane	125'	125	125	125	125	125

Table T8 shows that the 95th percentile vehicle queuing at the Soscol Avenue/Project Driveway intersection would not increase beyond available storage in either the Project Driveway eastbound approach left or right turn lanes or in the northbound or southbound Soscol Avenue approach lanes. The Soscol Avenue single northbound left turn lane would have a 125-foot storage demand with a 250-foot lane capacity. Soscol Avenue would have a queue demand of 250 feet in each northbound through lane with over 1,000-feet per lane storage, and 925 feet in each southbound through lane with over 1000-feet per lane storage. Southbound right turns would have a 50-foot queue demand with a 100-foot lane storage.

Table T8

95TH PERCENTILE VEHICLE QUEUES
SOSCOL AVENUE/PROJECT DRIVEWAY
SIGNALIZED INTERSECTION
YEAR 2020

STREET	APPROACH	MOVE-MENT	# LANES	STORAGE (FEET/LANE)	STORAGE DEMAND IN FEET PER LANE WITH 500 APT UNITS, ONLY IN GASSER NORTH (W/O BRIDGE)	STORAGE DEMAND IN FEET PER LANE WITH 500 APT UNITS PLUS 72 K COMMERCIAL IN GASSER NORTH -NO CREEKSIDE - (W/O BRIDGE)	STORAGE DEMAND IN FEET PER LANE WITH BUILDOUT GASSER NORTH (W/O BRIDGE)	STORAGE DEMAND IN FEET PER LANE WITH BUILDOUT GASSER NORTH WITH BRIDGE
Soscol Ave.	NB	Left turn	1	250	125	200	275	175
		Thru	2	1,150	250	250	250	225
	SB	Right turn	1	100	50	50	50	75
		Thru	2	1000+	925	900	925	850
Project Driveway	EB	Left turn	2	450 (total of two lanes)	100	150	200	375
		Right turn	1	150	50	75	75	50

The queuing impacts would be a less-than-significant impact, consistent with mitigated conditions resulting from analyses conducted for the Gasser South development, no greater than the impacts analyzed in the Master Plan EIR.

Mitigating Policies and implementing programs:

The Project is required to pay the City's street improvement fee, which would represent mitigation for the Project's contribution to impacts to City intersections.

- TRA 7
- TRA 20

These mitigation measures are implemented through the proposed Conditions of Approval, included in Appendix A.

Consistent with the approved Master Plan, prior to full buildout of the Gasser North Master Plan the following improvements will be completed, consistent with TRA-7 and TRA-8.

- Gasser Drive extension and bridge,
- An additional exclusive eastbound left turn lane at the Imola Avenue/Soscol Avenue intersection,
- An additional exclusive westbound left turn lane at the Imola Avenue/Soscol Avenue intersection, and
- Fair share payment toward an additional westbound combined right/left turn lane at the Silverado Trail/Soscol Avenue intersection.

These improvements are not required for the Project mitigation, but are necessary for full buildout of Gasser North. As described above, the City Council of the City of Napa issued, pursuant to CEQA Guidelines Section 15093, a Statement of Overriding Considerations, which identified specific economic social and other considerations that render the unavoidable significant adverse environmental effects acceptable. Having considered the unavoidable adverse impacts of the Master Plan, the City determined that all feasible mitigation has been adopted to reduce or avoid the potentially significant impacts identified in the Master Plan EIR and that no additional feasible mitigation was available to further reduce significant impacts. The City also found that mitigation of traffic impacts related to Project traffic was additionally hindered because implementation of mitigation measures was within the jurisdiction of another public agency. The City found that economic, social, and other considerations of the Master Plan Project outweighed the unavoidable adverse traffic impacts.

Because the Project is located within the Master Plan area and is designed consistent with the requirements of the approved Master Plan regulations and guidelines, as analyzed in the Master Plan EIR, it is within the Scope of the Master Plan EIR. As such, the Project would not increase traffic impacts beyond what was analyzed within the Master Plan EIR and approved in the statement of overriding considerations.

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant transportation and traffic impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant transportation and traffic impact.

4. There is no new information of substantial importance showing that significant transportation and traffic impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

4.O - Utilities and Service Systems

Environmental Issue Area	Potentially Significant Impact, Unmitigated	Potentially Significant Impact, Mitigated	Less Than Significant Impact	No New Impact
UTILITIES AND SERVICE SYSTEMS. *Would the project:*				
a. Result in substantial adverse physical effects associated with the provision of new or physically altered police, fire, or school facilities, or the need for new or physically altered facilities; the construction of which could cause significant environmental impacts in order to maintain acceptable levels of service ratios, response times, or other performance objectives for any of the following services: - fire and police protection; - schools; - other public facilities				X
b. Have insufficient water supplies available to serve the project from existing entitlements.				X
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.				X
d. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.				X
e. Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.				X
f. Not comply with federal, state, and local statutes and regulations related to solid waste.				X

The Project was examined and compared to the analysis in the Master Plan EIR as it pertains to utilities and service systems to determine whether the Project is within the scope of the development contemplated by the Master Plan and whether it could result in new effects that were not identified and addressed in the Master Plan EIR. Based on this review and as detailed below, the Project is within the scope of the Master Plan development program and would not result in any new significant environmental effects relating to utilities and service systems.

The Project would be designed and constructed in a manner that is consistent with the development analyzed in the Master Plan EIR. As such, the Project would not create new or greater impacts to utilities and service systems that were not disclosed in the Master Plan EIR or propose changes that require revisions to that EIR. In addition, no substantial changes with respect to circumstances under which the Project is undertaken or the discovery of new important information has occurred since the Master Plan EIR was completed and certified that would require revisions to the Master Plan EIR. Therefore, the Project would not result in any new or more severe impacts with respect to utilities and service systems

that were not previously analyzed and disclosed in the Master Plan EIR, and no further environmental analysis is required.

As explained below, the Project would not result in any new environmental effects relating to utilities and service systems that were not identified and addressed in the Master Plan EIR.

a) *The Project would not result in substantial adverse physical effects associated with the provision of new or physically altered police, fire, or school facilities, or the need for new or physically altered facilities; the construction of which could cause significant environmental impacts in order to maintain acceptable levels of service ratios, response times, or other performance objectives for any of the following services:*

- *fire and police protection;*
- *schools;*
- *other public facilities.*

The Master Plan EIR analyzed whether proposed Master Plan Project would have an impact on the provision of police services by the additional population from buildout of the proposed Project. The Master Plan EIR found that implementation of the Master Plan would not result in significant environmental impacts to police services. The Project has been reviewed by the City's police department, and no new impacts were identified. The Project is thus within the analysis of the Master Plan EIR and will not result in any significant impacts to public services.

The Master Plan EIR analyzed whether the proposed Master Plan Project would have a significant fire services impact if the Project created the need for new or physically altered fire facilities. The Master Plan EIR found the Project site is well within the 1.5-mile radius of Fire Station #4, and response time to the Project site would be less than four minutes. Given the proximity of Fire Station #4 to the Project site, the site would be adequately served by existing facilities. The NFD has indicated that implementation of the proposed Project would not result in the need for a new fire station, nor did the Department anticipate any significant impacts to fire service as a result of implementing the Project. Although no impacts were identified, the Master Plan EIR concluded that the Project applicant would be required to comply with the mitigation measures specified in the City of Napa's Policy Resolution 27. Because the Project is required to comply with PR 27, it will not have any impact to fire services.

The Master Plan EIR analyzed whether the proposed Master Plan Project would have a significant impact on schools. The Master Plan EIR found that the residential units constructed under the Project could add students to the elementary, middle and high schools in the NVUSD. The increase in population resulting from the proposed Master Plan would increase demand on schools and the need to construct new school facilities. This was a potentially significant impact. The Master Plan EIR found that implementation of Mitigation Measure PUB-3 would provide a contribution to the funds necessary to build new schools and thus would reduce the impact to a less-than-significant level. Government Code Section 65996(a) states

that no additional mitigation beyond the payment of the aforementioned fees is permitted.

Because the Project will be required to pay all applicable impact fees and adhere to the EIR's mitigation measures described below, the Project will not result in substantial adverse physical effects associated with the provision of new or physically altered police, fire, or school facilities, or the need for new or physically altered facilities; the construction of which could cause significant environmental impacts in order to maintain acceptable levels of service ratios, response times, or other performance objectives public facilities and services.

b) The Project would not have insufficient water supplies available to serve the project from existing entitlements.

The Master Plan EIR analyzed whether the Master Plan development would increase water demand in the City of Napa. It found that development of the Master Plan would increase demands for water by increasing the total population of the city by up to 1,409 residents, based on the addition of up to 500 housing units, 24 SRO units, and 60 homeless shelter beds, and by adding commercial and office space to the area. It discussed that as required by Chapter 13.09.010 of the Municipal Code, installation of water-saving fixtures such as ultra low-flow toilets and urinals, faucets and showerheads would be required for all of the proposed residential and commercial development. Also, under the requirements of Municipal Code Chapter 17.52.520, projects developed under the Master Plan would be required to incorporate water efficient landscaping and irrigation systems. It found that implementation of such landscape architecture standards, such as using drought-tolerant plant materials and drip or low-gallon irrigation systems would also help reduce water demand. Although the Master Plan EIR identified no water supply impacts, it stated that the Project applicant would be required to comply with the several mitigation measures specified in the City of Napa's Policy Resolution 27 (PR 27). The Project also would be required to adhere to those measures, although no additional impacts are associated with the Project beyond those described in the EIR.

The Master Plan IR also discussed that there were no existing water service problems or deficiencies in the Project area. However, it concluded that the Project would most likely need to be connected to the Zone 3 pressure system to provide adequate fire flow to the development. This was because water pressure within Zone 1 may not be sufficient to meet the requirements for the proposed development. Because of this, the Master Plan EIR identified a potentially significant impact: Impact UTIL-1: Failure to meet applicable fire flow standards would adversely affect the ability of the Napa Fire Department to provide adequate service to the Project. To mitigate the impact to a less-than-significant level, the Master Plan EIR identified Mitigation Measures UTIL-1a through Mitigation Measure UTIL-1f. The EIR concluded that implementation of these mitigation measures would ensure that applicable fire flow standards and connections are met, and provide the increased fire flows necessary for development of the Master Plan area, thereby reducing the impact to a less-than-significant level.

Although California is experiencing a drought year, as of January 2016, the City of Napa's existing water supply remains adequate for normal demand through 2020. Additionally, the completed construction of a recycled water pipeline under the Napa River will reduce potable water demand as vineyards transition from City water to recycled water.

The Master Plan EIR found that measures described in PR 27 and mitigation described above would reduce potential impacts regarding water supply and distribution to a less-than-significant level. Because the City has sufficient water supply and because the Project is required to comply with mitigation measures described above, it would not have insufficient water supplies available to serve the Project from existing entitlements.

c) *The Project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.*

The Master Plan EIR analyzed whether development facilitated by the Master Plan could potentially result in wastewater service demands that would result in a determination by the wastewater treatment provider that it does not have adequate capacity to serve projected demand or result in the construction of new or expanded wastewater treatment facilities. For the purposes of the Master Plan EIR's analysis, projections are based on the general guideline of 95 percent of water usage, excluding irrigation, returned as wastewater. Based on this assumption, the Master Plan EIR found that the Master Plan would generate a total of approximately 137,590 gpd of wastewater. This includes 82,137 gpd generated by the Project's proposed residential uses, and 55,435 gpd generated by the Project's retail, office, entertainment, and institutional uses. The Master Plan EIR found that major trunk lines that serve the Project site have adequate capacity to handle the wastewater generated by the Project, and that the Napa Sanitation District has adequate capacity to serve the proposed Project. The Master Plan EIR concluded that the Master Plan-related development would have a less-than-significant impact on existing treatment capacity. The Master Plan EIR found that developer compliance with Policy Resolution 27 (XVI.3) and General Plan policy CS-10.3 for wastewater treatment improvements would reduce potential impacts regarding water supply and distribution to a less-than-significant level and no mitigation was required.

The Project would be required to connect to the NSD for sewer service. The NSD would impose capacity charges and any necessary on-site or off-site improvements needed to serve the Project. The Project also would be subject to ongoing sewer service charges imposed by the NSD. NSD has reviewed the Project and has agreed it has the capacity to serve the Project. Based on this and because the Project is within the scope of development and impacts analyzed in the Master Plan EIR, as discussed above, it would not result in wastewater service demands that would result in a determination by the wastewater treatment provider that it does not have adequate capacity to serve projected demand or result in the construction of new or expanded wastewater treatment facilities.

d) The Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

The Master Plan EIR found that expansion of existing wastewater treatment facilities would not be required to treat the wastewater generated by the Master Plan. The Project's proposed development is within the development proposed in the Master Plan and analyzed in the Master Plan EIR for wastewater expansion impacts.

The Project would be required to connect to the NSD for sewer service. The NSD would impose capacity charges and any necessary on-site or off-site improvements needed to serve the Project. The Project also would be subject to ongoing sewer service charges imposed by the NSD. NSD has reviewed the Project and has agreed it has the capacity to serve the Project. Because NSD has capacity to serve the Project, it will not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

e) The Project would not be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

The Master Plan EIR analyzed whether development facilitated by the Master Plan could potentially be served by a landfill with insufficient permitted capacity to accommodate solid waste generated by the Project. The Master Plan EIR concluded that the projected solid waste generated by the Master Plan would amount to less than half of one percent of the Napa-Vallejo transfer station's permitted capacity, the proposed Project would not significantly impact the transfer station's operations. It also concluded that the projected solid waste generated by the Master Plan would amount to less than half of one percent of the Keller Canyon Landfill's permitted capacity, the proposed Project would not significantly impact the landfill's operations. Therefore, the Master Plan EIR concluded given these facts, and given the long-term capacity available at Keller Canyon Landfill, the Master Plan would not result in landfills exceeding permitted capacities.

Because the Project is within the level of development anticipated to be facilitated by the Master Plan and because the landfill has permitted capacity to accommodate the development facilitated by the Master Plan, the Project would not be served by a landfill with insufficient permitted capacity to accommodate the Project's solid waste disposal needs.

f) The Project would not cause the City to not comply with federal, state, and local statutes and regulations related to solid waste.

The Project EIR analyzed whether development facilitated by the Master Plan would comply with federal, state, and local statutes and regulations related to solid waste. The Master Plan EIR found that the only potentially significant conflict with compliance with regulations related to solid waste was if the there

was a failure of development under the Project to provide adequate space for recycling collection infrastructure and equipment that could impact the City's ability to comply with the 50 percent diversion goal mandated by the California Integrated Waste Management Act. It found that construction waste generated by development, if not recycled to the extent feasible, could also impact the ability of the City to achieve its solid waste diversion goal. The Master Plan EIR concluded that this would be a potentially significant impact that would be mitigated to less-than-significant levels with the implementation of Mitigation Measures PUB- 1 and PUB-2 in the Master Plan EIR.

The Project impacts are within the impacts analyzed in the EIR. Because the Project is required to adhere to Mitigation Measures PUB-1 and PUB-2 under the Master Plan, the Project would not impede the ability of the City to meet waste diversion requirements or cause the City to violate other applicable federal, state, and local statutes and regulations related to solid waste.

General Plan and Master Plan Mitigating Policies and implementing programs:

The Project shall comply with the following mitigation measures:

- UTIL1a-f
- PUB-1
- PUB-2
- PUB-3
- PUB-4

Conclusions:

1. The proposed Project is within the scope of the Master Plan development program evaluated in the Master Plan Program EIR.

2. The proposed Project will not result in new significant utilities and service systems impacts that were not evaluated in the 2006 Master Plan Program EIR.

3. The proposed Project will not result in an increase in the severity of a previously identified significant utilities and service systems impact.

4. There is no new information of substantial importance showing that significant utilities and service systems impacts described in the 2006 Master Plan Program EIR could be substantially reduced by adopting new or different mitigation measures or alternatives.

CHAPTER 5: MITGATION MEASURES

As described in Chapter 4 of this Addendum, the following impacts previously analyzed in the Master Plan EIR must be mitigated through mitigation measures applied to the Project.

In addition to the analysis in the preceding Chapter 4 of this Addendum, a complete description of the prior mitigation measures are contained in Chapter 4 of the Master Plan EIR. Following this summary is excerpts from Table 2.1 of the FEIR listing the corresponding prior mitigation measures to those cited herein. The specific Project conditions of approvals, including conditions modified by the Project Approvals, that implement mitigation measures for these impacts are listed in Appendix A.

Aesthetics:

- The Project shall also comply with measures to reduce light and glare under City of Napa Policy Resolution. (PR 27, including Mitigation Aesthetic I.1 and I.2.)

Air Quality and Greenhouse Gases:

- AQ-1
- AQ-2

Biological Resources:

- BIO1a-e
- BIO3
- BIO4a and c
- Implementation of Mitigation Measure BIO4b is only necessary to the extent that improvements are installed over or near Tulocay Creek.

Geology and Soils:

- GEO-1a
- GEO-1b
- GEO-1c
- GEO-2
- GEO-3
- GEO-5
- GEO-4
- GEO-6a
- GEO-6b
- GEO-6c

Hazards and Hazardous Materials:

- MM Haz-1a
- MM Haz-1b
- MM Haz-1c

Hydrology and Water Quality:

- Hydro 1 a
- Hydro 2 a-c
- Hydro 3 a-d
- Hydro 4 a-f
- Hydro 5 a-b
- Hydro 6 a-b
- Hydro 7
- Hydro 8

Land Use Planning:

Consistent with the Master Plan EIR, although no impacts were identified, the Project applicant would be required to comply with the following mitigation measures, as specified in the City of Napa's Policy Resolution 27 (PR 27):

- Developer shall comply with all requirements of federal, state and local laws and regulations applicable to Project construction and issuance of building permits. (PR 27 Mitigation Land Use IX.1.)
- Developer shall comply with the monitoring/reporting checklists development pursuant to the City of Napa Resolution 96-153, as updated from time to time, regarding CEQA implementation procedures for both standard and project specific mitigation measures. (PR 27 Mitigation Land Use IX.2.)

Developer shall notify all employees and agents of the mitigation measures and conditions applicable to the Project and shall ensure compliance with such measures and conditions. Developer shall also notify all assigns and transferees of the same. (PR 27 Mitigation Land Use IX.3.)

Noise and Vibration:

- MM Noise 1
- MM Noise 2

Recreation and Open Space:

- PUB-5.

Transportation and Traffic:

- TRA 7
- TRA 20

Utilities and Service Systems:

- UTIL1a-f
- PUB-1
- PUB-2
- PUB-3
- PUB-4

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact TRA-6: *SR 12-SR 121/SR 29:* The project would contribute to LOS F conditions and would add 94 trips to the intersection during the weekday and weekend PM peak hours.	PS	Mitigation Measure TRA-6: ~~Before the applicant obtains building permits to construct Phase I, the project applicant shall pay SIF toward construction of an interchange or intersection improvement per Caltrans specifications. This improvement is currently unfunded, and the City of Napa has not identified a timeframe for implementation.~~ The ultimate improvement for the future Carneros interchange as the SR-12/SR-121/SR-29 intersection is in the City's SIF program. The applicant's payment of its SIF would be adequate mitigation for the project's cumulative impact at this location.	LTS with implementation; SU in the short- to mid-term
Impact TRA-7: *Soscol Avenue/Sousa Lane:* The project would contribute to LOS F conditions and would add 191 trips to the intersection during both the weekday and weekend PM peak hours. The intersection meets traffic signal warrant criteria and the project would contribute to this need.	PS	Mitigation Measure TRA-7: Before the applicant obtains building permits to construct Phase I, the project applicant shall pay SIF to signalize this intersection. In addition, the applicant shall fund and design reconfiguration of this intersection to provide a left-turn lane and a shared-through-right-turn lane on both the eastbound and westbound approaches.	LTS
	PS	~~Alternative Mitigation: It is the City's preference that the project applicant implement the Gasser/Soscol/Silverado realignment, which realigns Silverado Trail consistent with the City of Napa General Plan Transportation Element.~~ ~~Alternative Mitigation Measure TRA-7A: Implement Alterative Mitigation Measure TRA-2A to realign the intersection of Gasser Drive, Soscol Avenue and Silverado Trail consistent with the City of Napa General Plan Transportation Element.~~	~~LTS with implementation; SU in the short- to mid-term~~

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact TRA-19: *Soscol Avenue (SR 121)/Shetler Avenue:* The addition of project traffic at this intersection would degrade the operations of Soscol Avenue. (Note: This intersection would operate at LOS C or better during the weekday and weekend PM peak hours; however, the addition of project traffic contributes to the poor operation of Soscol Avenue.)	PS	Mitigation Measure TRA-19: The applicant shall pay the project's "fair share" contribution to modify the eastbound approach to a left-turn lane, shared left-through-right-turn lane, and a right-turn lane. Also, an additional northbound and southbound through lane should be constructed on Soscol Avenue and overlap phasing should be provided for the eastbound, northbound, and southbound right-turns.	LTS
Impact TRA-20: *Imola Avenue/Soscol Avenue:* The project would contribute to LOS F intersection operations and add 104 trips to this intersection during the weekday and weekend PM peak hours.	PS	Mitigation Measure TRA-20: Before the applicant obtains building permits to construct Phase II, the project applicant shall fund the construction of an additional left-turn lane on the eastbound approach, an exclusive right-turn lane on the westbound approach. In addition, the applicant shall pay SIF for the construction of an additional through lane on Soscol Avenue in both directions. The Applicant shall provide protected phasing for the eastbound and westbound left-turn movements. Plans for the eastbound and westbound improvements are currently being designed. These plans show that additional right-of-way is required for the eastbound and westbound improvements. Based on year 2010 traffic projections, the eastbound left turn will require approximately 250 feet of storage and the westbound right turn will require approximately 100 feet of storage. The required eastbound and westbound storage are approximated; a study shall be conducted to refine the pocket lengths and lane widths when the applicant applies for an encroachment permit. The City of Napa has not identified a timeframe for implementation.	LTS with implementation; SU in the short- to mid-term
		~~**Alternative Mitigation:** It is the City's preference that, as an alternative to providing TRA 20, the project applicant implements the Gasser/Soscol/ Silverado realignment, which realigns Silverado Trail consistent with the City of Napa General Plan Transportation Element.~~	~~LTS with implementation; SU in the short- to mid-term~~

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
HYDROLOGY & WATER QUALITY			
Impact HYDRO-1: *Water quality (construction).* The disturbance of the project site during construction has the potential to substantially degrade the quality of runoff from the site to area waterways, including the Napa River and Tulocay Creek. This is considered a potentially significant impact.	PS	Mitigation Measure HYDRO-1a: *Storm Water Pollution Prevention Plan.* The applicant/developer shall submit a Notice of Intent (NOI) and a Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB prior to any grading or construction activity. The SWPPP must be consistent with the City-approved stormwater management plan. A copy of the transmittal, NOI, and a SWPPP shall be submitted to the City for its review and approval prior to the issuance of a grading and/or building permit. This information is required pursuant to the NPDES General Permit Regulations contained in State Water Quality Control Board Water Quality Order No. 2003-0005-DWQ and ensures pollution prevention planning by the applicant. (See also PR 27 Mitigation Hydrology and Water Quality VIII.4.)	LTS
		Mitigation Measure HYDRO-1b: *Erosion and Sediment Control.* Implement Mitigation Measure GEO-6a and Mitigation Measure GEO-6b. Mitigation Measure GEO-6a provides that "the developer shall provide an erosion and sediment control plan and a schedule for implementation of approved measures to the Public Works Director for approval with the first improvement plans submitted for review. No grading and excavation shall be performed except in accordance with the approved plan and schedule. (PR 27 Mitigation Geology and Soils VI.3.)" Mitigation Measure GEO-6b provides that "hydroseeding of all disturbed slopes shall be completed by October 1; Developer shall provide sufficient maintenance and irrigation of the slopes such that growth is established by November 1." (PR 27 Mitigation Geology and Soils VI.4.) These measures require plans and actions that have been shown to significantly reduce construction-related erosion and sedimentation.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-2: *Water quality (long-term).* The Master Plan calls for the development of a variety of office, retail, commercial, residential, and other uses. Each new land use has the potential to degrade the quality of surface water runoff from the site to area waterways, including the Napa River and Tulocay Creek, which are already listed for nutrients, pathogens, and sediment. This is considered a potentially significant impact.	PS	Mitigation Measure HYDRO-2a: *Stormwater Management Plan.* Before the City can approve any phase of development at the project site, the applicant must demonstrate through a stormwater management plan for that development phase that is approved by the City Public Works Director that their proposed development plan meets the requirements of the City of Napa NPDES General Permit No. CAS000004 as detailed in Attachment 4 to the SWRCB Order No. 2003-005. This plan shall include the Storm Water Pollution Mitigation Plan ("SWPMP") as required by Napa Policy Resolution No. 27. (PR 27 Mitigation Hydrology and Water Quality VIII.10.) In terms of supporting documentation, the stormwater management plan will include calculation of post-construction BMP capacity to treat pollutants and other information necessary to support the proposed design. (Note: This mitigation measure also addresses the stormwater drainage system design and general flood hazards associated with it. See Impacts HYDRO-3 and HYDRO-4.)	LTS
		Mitigation Measure HYDRO-2b: *Best Management Practices.* The stormwater management plan shall include best management practices (BMPs) for site design, source control, and treatment to the maximum extent practicable to reduce the potential for degradation of groundwater and surface water quality. The requirements will include at a minimum the BMPs and BMP standards specified by the City of Napa's Interim Policy Procedure for Post-Construction BMPs at commercial (includes office and retail) and residential sites, unless new guidance with superior water quality protection supersedes this document, in which case that standard shall be in force. For new residential and other development, the stormwater management plan shall incorporate the same BMPs as required for commercial development for grassy	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-2 *(continued)*		swales and inlet labels, as well as meeting the same standards for treatment control sizing as required of commercial developments. Specifically, all new storm drain inlets will be marked with permanent labels that state "No Dumping—Flows to River." This work shall be shown on improvement plans. (PR 27 Mitigation Hydrology and Water Quality VIII.11.) In addition, to the maximum extent practicable, routine discharge of surface water to wetlands, from both commercial and residential developments and including overland flow, shall be required to either pass through a vegetated swale engineered for water quality protection according to requirements as detailed in the California BMP Handbook for New Development and Redevelopment, or through a 100-foot or wider vegetated buffer, or through a similarly effective BMP. Any exceptions to this requirement shall be noted in the proposed development plan. In no case shall vegetated buffers at delineated wetlands be less than 50 feet. While the effectiveness of BMP's vary, the standard established by the City of Napa's Interim Policy Procedure for Post-Construction BMPs represents a reasonably prudent and practicable approach for significant new development in a water quality-impaired basin that does not place an undue burden on new development compared to existing development. In this instance, additional measures have been specified. Water quality impacts from new development of land that was previously open space are generally proportional to the size of the developed area. Because of the large size of the proposed Gasser Master Plan project, the impaired condition of the waterways to which it drains, and the existing wetlands with habitat values that will temporarily detain drainage waters, additional water quality protection meas-	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-2 *(continued)*		ures beyond these standard requirements are also appropriate. These additional specified BMP's will provide an increased level of source control and treatment for all proposed uses, including implementation of BMP standards for residential uses that are similar to commercial standards. They also provide additional protection to the wetland at the site. The effectiveness of a vegetated buffer is enhanced by lower slopes and longer flow lengths. Therefore, this mitigation measure specifically provides increased protection for the wetland by significantly increasing the effective length of flow through a vegetated buffer as water flows overland to the existing wetlands.	
		Mitigation Measure HYDRO-2c: *Drainage Easements.* The stormwater management plan shall show Type A, B, or C drainage easements for the drainage facilities shown on the plans according to the City of Napa Public Works Department Standard Specifications and Standard Plans, Drainage Easements. Easements shall have a minimum width of 15 feet. Pipes exceeding 24-inches in diameter or deeper than 5 feet will require wider easements as required by the City Public Works Director. These easements will provide protection and maintenance access to ensure continued function of such features.	
		Mitigation Measure HYDRO-2d: *Stormwater Management Plan, further requirements.* In terms of supporting documentation, the stormwater management plan will include post-construction BMP capacity to treat pollutants and other information necessary to support the proposed design.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-3: Drainage impacts (other than water quality). Alterations in the watercourses and drainage system for drainage through Gasser North and Gasser South may cause siltation or erosion impacts as well as drainage problems.	PS	Mitigation Measure HYDRO-3a: *Stormwater Management.* Implement Mitigation Measures HYDRO-2a, HYDRO-2b, HYDRO-2c, HYDRO-2d, HYDRO-2e, HYDRO-2f, and HYDRO-2g.	LTS
		Mitigation Measure HYDRO-3b: *Erosion/Siltation Evaluation:* The applicant shall submit an evaluation of erosion/siltation hazards for each phase of the Gasser Master Plan, or elements thereof. The plans shall describe any actions that will construct or alter drainage elements or drainage patterns on the site. This plan evaluates the risk of erosion/sedimentation hazards created by the project's implementation. Finally, the plan shall demonstrate that the project will not present a substantial risk of erosion or sedimentation and provide supporting documentation of the basis for the evaluation's conclusion. Approval of a grading permit shall be contingent on approval of the submitted erosion/siltation evaluation by the City Public Works Director. This evaluation may be submitted as part of the stormwater management plan.	
		Mitigation Measure HYDRO-3c: *Stormwater Management Plan, Further Requirements.* This supplements Mitigation Measure HYDRO-3a, which requires the preparation and implementation of a stormwater management plan as specified by Mitigation Measure HYDRO-2a. In accordance with Napa Policy Resolution No. 27 Attachment A, Section VIII (Hydrology and Water Quality), the stormwater management plan, drainage plan, and site development plan shall also reflect, and the applicant shall meet, the following parallel and/or supplemental requirements:	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-3 *(continued)*		♦ The stormwater management plan will specify implementation of a storm drain system, including any off-site components, that is designed to meet current City Engineering Division standards and that is sufficient to convey at least a 25-year storm, exceeding or meeting current Napa Public Works Department Standard Specifications in accordance with Napa Policy Resolution No. 27, Attachment A, Subsection XVI.5. ♦ The stormwater management plan shall include documentation of all storm drain calculations, including onsite and off-site runoff calculations, inlet capacity calculations, pipe flow calculations, and detention basin capacity calculations. ♦ To ensure adequate drainage control, the Developer of any project which introduces new impervious surfaces (roof, driveways, patios) which will change the rate of absorption of drainage or surface run-off shall submit a drainage and grading plan designed in accordance with Policy Resolution No. 17 and the City of Napa Public Works Department Standard Specifications to the Napa Public Works Department for its approval. (PR 27 Mitigation Hydrology and Water Quality VIII.1.) ♦ Side yards of each lot shall have of a minimum unobstructed width of five (5) feet, provided that commercial and certain types of residential development may be designed without side yards of any width, except where approved by the City Public Works Director as part of the Stormwater Management Plan. No building encroachments, door landings or mechanical equipment shall be placed in this unobstructed area without the review and approval of the City Public Works Director in order to assure adequate drainage. (PR 27 Mitigation Hydrology and Water Quality VIII.3.)	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-3 *(continued)*		Mitigation Measure HYDRO-3d: *Stormwater Operations, Maintenance, and Implementation.* Implement Mitigation Measures HYDRO-2e: Stormwater Operations and Maintenance and Mitigation Measure HYDRO-2f: Stormwater plan implementation.	
Impact HYDRO-4: *Flood hazards (baseline).* The Master Plan calls for the development of a variety of office, retail, commercial, residential, and other uses within a designated floodplain and floodway of the Napa River. While most of the site will be removed from the designated floodplain under baseline conditions, interim, residual, and persistent flood hazards, including events larger than a 100-year flood, may affect the site and flood hazards will therefore result from the new exposure caused by the proposed new development. As a result of new development on the site, additional property and persons will potentially be subject to flood hazards. This is a potentially significant impact.***	PS	Mitigation Measure HYDRO-4a: *Floodplain Permit.* Before development may be approved by the City of Napa within properties zoned :FP, which presently includes the entire area proposed for development within the Gasser Master Plan, a floodplain permit must be obtained from the City's floodplain administrator in accordance with Napa Municipal Code Chapter 17.38. Such a permit may not be issued until each of the pieces of information, analyses, and documentation required by this section before construction are submitted. Included in the submittal shall be an identification of all drainage necessary to reduce exposure to flood hazards, documentation showing that 1) finished floors will be elevated at least one foot above the base flood elevation, 2) fully enclosed floors below this elevation automatically will equalize hydrostatic flood forces, and 3) construction below one foot above the base flood (100-year flood) elevation will be floodproofed. The applicant shall submit Certifications of Compliance with the standards of NMC Chapter 17.38 (:FP Floodplain Management Overlay District) by a registered architect or civil engineer as required by NMC Chapter 17.38 to the Public Works Department at the times set forth in Chapter 17.38. (PR 27 Mitigation Hydrology and Water Quality VIII.2.) In addition, if the proposed project falls within a FEMA-designated floodway (currently the case), a floodway development analysis must be prepared by a registered professional engineer as described in NMC Chapter 17.38. and accepted by the City of Napa floodplain administrator before the City may approve development. Such development may only be approved by the City if it shows zero	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-4 *(continued)*		increase in water surface elevations for the entire length of the floodway under base flood conditions and no expected hazard from changes in flood flow and velocity as a result of the proposed development. This measure will ensure that the risk of significant property and public safety hazards at the proposed new development is minor and provide consistency with respect to FEMA and the City's zoning laws.	
		Alternative Mitigation Measure HYDRO-4a: *LOMR/CLOMR.* Before development may be approved by the City of Napa within properties zoned :FP, which presently includes the entire area proposed for development within the Gasser Master Plan, the applicant must successfully apply to the City to rezone the affected parcel or parcels to remove the :FP overlay. Before the City may approve this rezone, the applicant must demonstrate that a Letter of Map Revision (LOMR) removing the affected parcels from the floodplain or Conditional Letter of Map Revision (CLOMR) for a proposed project has been obtained from the Federal Insurance Administration of the FEMA. The LOMR may be in the form of an A-99 rezoning (an interim zoning designation to reflect the substantial progress in implementing the NRFPP) sought by the City that includes the proposed development area or an applicant-obtained LOMR for the proposed development area. This measure will ensure that the risk of significant property and public safety hazards at the proposed new development is minor and will eliminate regulatory conflicts with respect to FEMA and the City's zoning laws.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		Mitigation Measure HYDRO-4b: *Evacuation Route and Emergency Operations Plan.* All residential development at the project site shall be required to provide analysis demonstrating that an evacuation route from each structure can reasonably be expected to exist that will not be submerged by one or more feet of water during a 100-year flood event, regardless of whether or not a flood evacuation area designation exists for the proposed development area. The analysis supporting this conclusion shall be performed by a registered civil engineer and supporting documentation provided to the City of Napa's Public Works Director prior to final building clearance. All non-residential development at the project site shall be required to provide an emergency operations plan in accordance with FEMA Technical Bulletin 3-93 to the City of Napa's Public Works Director prior to final building clearance. For the purposes of this measure, Tulocay Creek levees shall be presumed ineffective unless they are certified to FEMA ~~criteria for levee adequacy given the Napa County~~ as adequate to contain a discharge equal to or larger than the Flood Control District's current 100-year flow estimate. This measure will ensure that the site can be evacuated during most flood events.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-4 *(continued)*		Mitigation Measure HYDRO-4c: *Stormwater Management Plan, Further Requirements.* Implement Mitigation Measures HYDRO-2a, HYDRO-2e, HYDRO-2f, and HYDRO-3a, which require the preparation and implementation of a stormwater management plan. The stormwater management plan, drainage plan, and site development plan shall also reflect, and the applicant shall meet, the following parallel and/or supplemental requirements: ♦ The stormwater management plan must demonstrate that conveyance or detention of any storm drain excess (stormwater runoff not produced by overbank flow from rivers and creeks that exceeds the capacity of the stormwater management system) up to the 100-year event will not aggravate flood hazards both on-site and off-site in comparison to pre-project conditions. The plan must specifically address this concern with regard to storm drain excess at Gasser South. ♦ Unless otherwise provided, all measures included in project approval pursuant to NMC Chapter 17.38 (floodplain management overlay district) shall be installed or carried out prior to final clearance of the building permit or concurrently with the installation of site improvements in the case of a subdivision map. (PR 27 Mitigation Hydrology and Water Quality VIII.9.) This measure will provide for the design and implementation of a stormwater management plan for the project that adequately addresses site drainage issues with regard to minimizing associated flood hazards.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-4 *(continued)*		Mitigation Measure HYDRO-4d: *Grading requirements.* All building pads shall be graded to a minimum of ~~one~~ 1-foot above the 100-year elevation for any reasonably expected overland flow, including routed stormwater or Tulocay Creek overflows in the event that levee improvements at Tulocay Creek fail to meet FEMA criteria for levee adequacy assuming the Flood Control District's current 100-year flow estimate or are certified by the USACE only for a smaller 100-year flow estimate. The analysis supporting both these elevations shall be performed by a registered civil engineer and supporting documentation provided to the City of Napa's floodplain administrator before a grading permit may be issued. Even if the project site does not retain the :FP overlay zone designation, this measure will reduce flood risks to new development by raising structures above most flood hazards.	
		Mitigation Measure HYDRO-4e: *Stormwater Operations, Maintenance, and Implementation.* Implement Mitigation Measure HYDRO-3d (Implement Mitigation Measures HYDRO-2e: Stormwater Operations and Maintenance and Mitigation Measure HYDRO-2f: Stormwater plan implementation).	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-4 *(continued)*		Mitigation Measure HYDRO-4f: *Flood Evacuation Area: Flood Evacuation Plan.* All developments at the project site within the flood evacuation area, regardless of use, shall be required to develop a flood evacuation plan, as presently required by the City for only certain residential developments under City Municipal Code Section 17.38.070. The flood evacuation plans adapted to the planned use shall be developed in accordance with Subsections A, B, and C of that Section. The flood evacuation plans must be approved by the City Public Works Director prior to final building permit clearance; all components of these plans must be developed and implemented prior to final clearance of building permits. This measure will reduce public safety flood risks for all proposed new development at the site, regardless of use, by providing evacuation planning.	
Impact HYDRO-5: *Interim Flood Hazards.* Development of areas within the project site prior to completion of the NRFPP may create significant off-site and on-site flood hazards. At present, Gasser North continues to be subject to overland flows from the Napa River to the north and west; Gasser South is subject to Napa River backwater from the west and south. Both Gasser North and Gasser South are subject to potential over flows from Tulocay Creek. In addition, development in the Gasser South area prior to completion of the NRFPP will be subject to on-site flood hazards as a result of flows from the river crossing the railroad tracks at the Gasser North portion of the project site and thereby being routed across the Napa Valley Wine Train Bridge into Gasser South.	PS	Mitigation Measure HYDRO-5a: *Phasing.* Before the City can approve grading permits for any proposed development at the project site, flood hazard reduction measures must be implemented as indicated in Table 4.4-3, with all items in the column on the left preceding or occurring concurrently with the action in the column on the right.	LTS
		Mitigation Measure HYDRO-5b: *Floodplain Management.* Implement Mitigation Measure HYDRO-4a: Floodplain permit or Alternative Mitigation Measure HYDRO-4a: LOMR/CLOMR. This measure will ensure that the risk of significant property and public safety hazards at the proposed new development is minor and will eliminate regulatory conflicts with respect to FEMA and the City's zoning laws.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-6: *Residual Flood Hazards ~~from~~ created by Soscol Avenue Flows.* Failure to maintain or improve convey ance of at least the 100-year residual overland flow along Soscol Avenue south of Oil Company Road that presently drains to the North Basin has the potential to aggravate flood hazards created y proposed new development at the project site. While partially addressed by elements specified under Mitigation Measure HYDRO-5a: Phasing requirements, this measure alone is not sufficient to entirely protect against flood hazards ~~created by the proposed development as a result of~~ with respect to ongoing Soscol Avenue residual flood flows. This is considered to be a potentially significant impact.	PS	Mitigation Measure HYDRO-6a: *Phasing.* Implement Mitigation Measure HYDRO-5a: Phasing.	LTS
		Mitigation Measure HYDRO-6b: *Residual Overland Flow Improvements.* Neither fill nor structures may be placed at the Tulocay Square site unless documented analysis is provided showing that ~~a drainage plan element has been developed and implemented that provides~~ flood hazards ~~protection~~ to surrounding properties from at least the 100-year residual overland flow extending along Soscol Avenue from the intersection of Oil Company Road south to the North Basin are not aggravated compared to baseline conditions as a result of encroachment at the Tulocay Square site. This equal or improved flood hazard condition could be linked to implementation of a drainage plan, such as the larger project developed for the Soscol Gateway Vision, that reduces Soscol Avenue residual flood flow hazards. This drainage plan element may consist of culverts (currently estimated at two 4ft x 16ft box culverts[1]) extending from Oil Company Road to the North Basin or a combination of smaller culverts along the same alignment with improved conveyance along and across Soscol Avenue south of Oil Company Road (e.g., culvert, or culvert combined with surface flow) and to the North Basin (e.g., a culvert and/or the 70-foot wide flowage easement at the south side of the proposed Tulocay Square site identified in an agreement between the Gasser Foundation and the Flood Control District). If the flowage easement is included in the drainage plan, it shall be surfaced and maintained without obstruction in a location, width, and condition specified by the Flood Control District to allow for conveyance of residual overland flows from Soscol Avenue to the North	

[1] Schaaf & Wheeler, 2005. *Draft Soscol Area Drainage Study – Design Options*, July.

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-6 *(continued)*		Basin and shall be identified on any grading and utility plans submitted to the City. Unless released at some future time from such responsibility by the Flood Control District, maintenance of the flowage easement will remain the responsibility of the applicant or subsequent property owner. This measure will require development of an integrated and effective plan to address residual flood flows from Soscol Avenue in concert with the plan to place new fill in the flow path at the proposed Tulocay Square site, thereby alleviating most flood risks that might result from such a development.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-7: *Tulocay Creek backwater Flood Hazard.* Construction of the Gasser Drive Bridge across Tulocay Creek may raise upstream water surface elevations in Tulocay Creek as a result of head losses due to the presence of piers in the active channel, impingement of the flow on the bridge roadway, and/or debris accumulation, and thereby cause higher elevations upstream and/or overtopping of creek levees, increasing flood hazards.	PS	Mitigation Measure HYDRO-7a: *Gasser Drive Bridge Hydraulic Design Criteria.* The applicant must obtain approval from the City Public Works Director of a hydraulic analysis for the Gasser Drive Bridge prior to City approval of permits for bridge construction. This analysis must demonstrate that the design (including the pier shape and number, bridge low chord, and bridge width as shown in the final design for the bridge) has the ability to pass 1) a 50-year flow in Tulocay Creek (recently estimated at 4,230 cfs[2]) with at least 0.5 feet of freeboard when backwatered from a 50-year flood event in the Napa River with the NRFPP in place and 2) a 100-year flow in Tulocay Creek (recently estimated at 4,500 cfs[3] and elsewhere at 4,875 cfs[4]) without pressure flow when backwatered from a 50-year flood event in the Napa River with the NRFPP in place. Additionally, before the City may grant its approval, the applicant must obtain a letter from the	LTS

[2] Avila & Associates Consulting Engineers, Inc., 2005. *Bridge Hydrologic and Hydraulic Analysis: Gasser Drive Bridge Crossing, Tulucay Creek, Napa County, California* July.

[3] Jon Lander, Napa County Flood Control District, personal communication with PWA, October 5, 2005.

[4] Avila & Associates Consulting Engineers, Inc., 2005. *Final Draft - Bridge Hydrologic and Hydraulic Analysis: Gasser Drive Bridge Crossing, Tulucay Creek, Napa County, California* July.

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-7 *(continued)*		entity responsible for the function of the Tulocay Creek element of the NRFPP ~~USACE~~ stating that the design is consistent with the flood protection objectives of the NRFPP. ~~so that the USACE can certify to FEMA that the NRFPP still provides a 100-year flood protection even with the construction of the prposed Gasser Bridge.~~ The responsible entity is expected to either be the USACE (before the NRFPP is turned over to the local sponsor) or the Flood Control District (the local sponsor). This measure will provide a factor of safety to address uncertainty in bridge hydraulics and function, thereby reducing the risk of flood hazards associated with its construction.	
		Mitigation Measure HYDRO-7b: *Gasser Drive Bridge Pier Design.* The applicant must obtain approval from the City Public Works Director for design of the Gasser Drive Bridge prior to City approval of permits for bridge construction. This design must be consistent with the hydraulic analysis bridge description submitted for the bridge and must include piles that are webbed to minimize debris accumulation, or continuous walls in lieu of piles, or include no piers within the active channel. This measure will reduce the risk of debris accumulation at the bridge, thereby reducing the risk of flood hazards associated with its construction.	
		Mitigation Measure HYDRO-7c: *Gasser Drive Bridge Upstream Levee Raise.* Prior to City approval of permits for construction of the Gasser Bridge, the Tulocay Creek levee upstream of the bridge must be raised as needed. This should be done in order to provide at least as much freeboard between the top of levee and the estimated water surface elevation at the upstream side of Gasser Bridge. ~~at~~ The 100-year flow as adopted by the Flood Control	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-7 *(continued)*		District (presently ~~assumed~~ estimated by the Flood Control District to be ~~4,857~~ 4,500 cfs) in Tulocay Creek, ~~(~~when backwatered from a 50-year flood event in the Napa River with the NRFPP in place~~)~~, ~~as~~ has been predicted in head loss at the bridge in the approved hydraulic analysis, plus 0.1 foot. This measure will provide a factor of safety in the upstream levee height, proportional to the expected head loss at the bridge, to address uncertainty in bridge hydraulics and function, thereby reducing the risk of flood hazards associated with its construction.	
		Mitigation Measure HYDRO-7d: *Tulocay Creek Monitoring and Maintenance.* Prior to City approval for construction of a bridge over Tulocay Creek on Gasser Drive, the applicant must receive approval from the City Public Works Director for a monitoring and maintenance plan. This plan must identify what actions will be taken to maintain the Tulocay Creek channel at and downstream of the Gasser Drive Bridge at a performance level at or below the 100-year water surface profile identified in the approved hydraulic analysis beyond the routine monitoring and maintenance of this reach of the creek by the Flood Control District that would otherwise be required. The supplemental funding required for the implementation of this plan by the Flood Control District shall be provided by the applicant to the Flood Control District based on District actual costs, with a District-generated estimate of cost paid by the applicant each year in advance for the following year's work. This requirement shall remain in effect unless and until at some point in the future the City waives it due to new analysis either demonstrating that the expected freeboard at the bridge is 1.0 foot or more in a 50-year flood event when backwatered from a 50-year flood event in the Napa River with the NRFPP in place or a finding that the routine monitoring and maintenance of this reach of the creek by the	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-7 *(continued)*		Flood Control District ~~as required by the USACE as part of the NRFPP~~ will be sufficient to maintain ~~the reach of the channel~~ it at a performance level at or below the 100-year water surface profile identified in the approved hydraulic analysis. This requirement shall remain in effect unless and until at some point in the future the City waives it due to new analysis either demonstrating that the expected freeboard at the bridge is 1.0 foot or more in a 50-year flood event when backwatered from a 50-year flood event in the Napa River with the NRFPP in place, or that the monitoring and maintenance of this reach of the creek by the Flood Control District as required by the USACE as part of the NRFPP will be sufficient to maintain this reach of the channel at a performance level at or below the 100-year water surface profile identified in the approved hydraulic analysis. The channel management plan shall include a maintenance manual and program, including annual reporting to the City Public Works Director on maintenance activities undertaken. The funding plan for facility operation and maintenance shall also be included as part of the channel management plan. This plan shall include a signed statement from the developer accepting responsibility for maintenance and management of the reach addressed by the channel management plan until such time when the property is transferred; the funding and implementation responsibility will be transferred with the property. This measure will provide additional assurance of bridge performance, even in the face of downstream channel changes, thereby reducing the risk of flood hazards associated with its construction.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact HYDRO-8: *Construction in a Waterway: Regulatory Conflicts.* The proposed Gasser Drive Bridge may include modifications within the Tulocay Creek channel. If so, such construction will likely be subject to regulation under such laws as Rivers and Harbors Act, the Clean Water Act and the California Fish and Game Code and will require the acquisition of permits and execution of agreements for compliance.	PS	Mitigation Measure HYDRO-8: *Permits and Agreements.* The applicant shall acquire all required permits and agreements for construction of the proposed Gasser Drive Bridge. Such permits may include a permit under Section 10 of the Rivers and Harbors Act from the USACE, Section 401 and 404 permits under the Clean Water Act from the Regional Water Quality Control Board and USACE, respectively, and a Streambed Alteration Agreement from the California Department of Fish and Game.	LTS
Impact HYDRO-9: *General Plan Conflicts.* Table 4.4-4 addresses the extent to which the project would conflict with a number of the relevant goals and policies in the City of Napa General Plan.	PS	Implementation of the above-noted mitigation measures would reduce potential water quality and hydrology impacts related to plan and policy inconsistency to a *less-than-significant* level. No additional mitigation measures are required.	LTS
AIR QUALITY			
Impact AQ-1: Construction activity during buildout of the project would generate air pollutant emissions that could expose sensitive receptors to substantial pollutant concentrations.	PS	Mitigation Measure AQ-1: The following is a list of feasible control measures that the BAAQMD recommends, some of which the City requires through Policy Resolution 27, to limit construction emissions of PM_{10}. These mitigation measures shall be implemented for all areas (both on-site and off-site) where construction activities would occur. ♦ Sprinkle water to all active construction areas at least twice daily and more often when conditions warrant. This measure is required by City Policy Resolution 27, which also stipulates that the water shall not be from the City's potable water supply. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency shall be necessary whenever wind speeds exceed 15 miles per hour such that no visible dust is seen leaving the project site.	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact AQ-1 *(continued)*		♦ Construction equipment must have state-of-the-art muffler systems required by current law. Muffler systems shall be properly maintained. (PR 27 Mitigation Air Quality III.3.) ♦ Cover all trucks hauling soil, sand and other loose materials or require all trucks to maintain at least two feet of free-board. ♦ Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites. ♦ Sweep (with water sweepers) all paved access roads, parking areas and staging areas at construction sites daily. ♦ Sweep streets daily if visible soil material is carried onto adjacent public streets. ♦ Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (defined as previously graded areas inactive for 10 days or more). ♦ Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.). ♦ Limit traffic speeds on unpaved roads to 15 miles per hour. ♦ Install sandbags or other erosion control measures to prevent silt runoff to public roadways. ♦ Replant vegetation in disturbed areas as quickly as possible. ♦ Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact AQ-1 *(continued)*		♦ Suspend grading activities when winds exceed 25 miles per hour (mph) and visible dust clouds cannot be prevented from extending beyond active construction areas, as also required by City Policy Resolution 27. (PR 27 Mitigation Air Quality III.2.) ♦ Limit the area subject to excavation, grading and other construction activity at any one time. ♦ Shut down all grading and construction equipment when not in use. This is an additional measure required by City Policy Resolution 27 (PR 27 Mitigation Air Quality III.1.).	
Impact AQ-2: The project would generate new emissions that would affect long-term air quality. A majority of the emissions generated by full buildout of the plan would be produced by traffic associated with retail aspects of the development.	PS	Mitigation Measure AQ-2: The project applicant shall reduce vehicle trips, and thus air pollutant emissions, through the measures listed below. ♦ Provide bus pullouts and transit stops at several locations with pedestrian access to the project. Project emissions could be reduced by about 2 percent with bus service. ♦ Bicycle amenities should be provided for the project. This would include secure bicycle parking for office and retail employees, bicycle racks for retail customers, and bike lane connections. This vehicle trip reduction measure could reduce emissions by 2 percent. ♦ Pedestrian facilities should link future transit stops and access roadways to the major site uses (e.g., residential and theatre uses). This may reduce emissions by 1 percent. ♦ Project site employers should be required to post transit rates and scheduling information on bulletin boards, which may reduce emissions by 1 percent.	SU

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact AQ-2 *(continued)*		♦ Consider that a portion of the parking facilities be set aside for commuter parking (i.e., Park and Ride facility) to reduce weekday commuter traffic when retail uses would not be in high demand. The effectiveness would depend on the use of the parking facilities and is too difficult to calculate at this point. Therefore, it would be considered to reduce emissions by less than 1 percent. ♦ Require new residential units to include only clean-burning U.S. EPA-certified wood burning devices, pellet-fueled stoves, or natural gas fireplaces. This would reduce a substantial portion of non-transportation PM_{10} emissions during wintertime, when PM_{10} concentrations can be highest and would include policies consistent with BAAQMD recommendations for control of residential wood smoke. This would reduce wintertime emissions of PM_{10} from woodsmoke by 90 percent or greater.	
Impact AQ-3: The project would result in development anticipated within clean air planning projections, but does not reasonably implement Transportation Control Measures.	PS	Implementation of Mitigation Measures ~~AQ-1 and~~ AQ-2 would reasonably implement transportation control measures, reducing this impact to a *less-than-significant* level.	LTS
NOISE			
Impact NOISE-1: The construction of the proposed project would generate noise levels that would substantially increase the noise environment in the vicinity of the site on a temporary basis.	PS	Mitigation Measure NOISE-1: During construction, the following measures, specified in the City of Napa's Policy Resolution 27, shall be implemented: ♦ Construction activities shall be limited to specific times pursuant to NMC 8.08.025, which limits construction activities to between 7:00 a.m. and 7:00 p.m., Monday through Friday, and between 8:00 a.m. and 4:00 p.m. on weekends or legal holidays, unless a permit is first secured from the City Manager (or his/her designee) for additional hours. The ordinance further states that the following will not be permitted:	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact NOISE-1 *(continued)*		start up of machines or equipment prior to 8:00 a.m. Monday through Friday; delivery of materials or equipment prior to 7:30 a.m. nor past 5:00 p.m., Monday through Friday; cleaning of machines or equipment past 6:00 p.m., Monday through Friday; and servicing of equipment past 6:45 p.m., Monday through Friday. (PR 27 Mitigation Noise XI.1.) Construction on weekends, pursuant to NMC 8.08.025, is limited to the hours of 8:00 am to 4:00 p.m. ♦ Construction equipment must have state-of–the-art muffler systems required by current law. Muffler systems shall be properly maintained. (PR 27 Mitigation Noise XI.2.) ♦ Noisy stationary construction equipment, such as compressors, shall be placed away from developed areas off-site and/or provided with acoustical shielding. (PR 27 Mitigation Noise XI.3.) ♦ Grading and construction equipment shall be shut down when not in use. (PR 27 Mitigation Noise XI.4.)	
Impact NOISE-2: The operation of the proposed project would generate noise levels that would substantially increase the noise environment in the vicinity of the site on permanent basis.	PS	Mitigation Measure NOISE-2: As individual facilities are developed, the City shall evaluate each facility for compliance with the City's Noise Ordinance and General Plan noise standards. Where individual facilities do not clearly comply with the noise standards included in these guidelines, mitigation measures shall be required to reduce projected interior and exterior noise levels to acceptable levels. Mitigation Measures may include, but are not limited to, the following: ♦ Dual-pane, noise-rated windows; mechanical air systems; exterior wall insulation; and other noise-reducing building materials shall be used.	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact NOISE-2 *(continued)*		♦ Mechanical equipment (e.g., air conditioning and ventilation systems) and area-source operations (e.g., loading docks, parking lots) shall be located the farthest distance from and/or shielded from nearby existing and proposed noise-sensitive land uses. In addition, the following measures will apply to noise-generating activities associated with commercial and multi-family housing grounds: ♦ Onsite landscape maintenance equipment shall be equipped with properly operating exhaust mufflers and engine shrouds, in accordance with the manufacturer's specifications. ♦ For maintenance areas located within 500 feet of noise-sensitive land uses, the operation of onsite landscape maintenance equipment shall be limited to the least noise-sensitive periods of the day, between 7 a.m. and 7 p.m.	
Impact NOISE-3: Noise levels generated by intermittent noise sources such as the pump station, NVWT, animal shelter, fire station, and commercial uses may be disruptive or annoying to residents of proposed housing units.	PS	Mitigation Measure NOISE-3a: The project applicant or developer shall submit to the City an acoustical study which quantifies noise levels generated by the flood control pumps after the NRFPP/pump station is operational and prior to the construction of residential units in the vicinity. The study will identify the necessary noise control measures to be included in the design of the residential development to maintain interior noise levels within units to 35 dBA Leq with the windows closed.	LTS
		Mitigation Measure NOISE 3b: The project applicant, developer, owner, or operator (as applicable) shall disclose to prospective residents the potential sources of offensive, intermittent noises including the pump station, NVWT, animal shelter, fire station, and commercial uses.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact NOISE-4: Interior noise levels at the transitional housing units adjacent to Hartle Court would exceed 45 CNEL assuming standard residential construction methods.	PS	Mitigation Measure NOISE-4: Developer shall have a project-specific acoustical analysis for the transitional housing units conducted to meet the following noise reduction requirements. Interior noise levels shall be reduced to 45 CNEL or lower to meet State and local standards. Building sound insulation requirements will need to include the provision of forced-air mechanical ventilation for new transitional housing units adjacent to Hartle Court, so that windows could be kept closed at the occupants' discretion to control noise. Results of the analysis, including the description of the necessary noise control treatments, will be submitted to the City along with the building plans and approved prior to issuance of a building permit. Feasible construction techniques such as these will adequately reduce interior noise levels to 45 dBA CNEL or lower.	LTS
Impact NOISE-5: Table 4.6-4 discusses the extent to which the Project would conflict with a number of the relevant goals and policies in the City of Napa General Plan.	PS	Implementation of Mitigation Measures NOISE-1, NOISE-2, NOISE-3, and NOISE-4 would reduce potential noise impacts related to plan and policy inconsistency to a less-than-significant level. No additional mitigation measures are required.	LTS
BIOLOGICAL RESOURCES			
Impact BIO-1: Development allowed under the proposed project could affect a number of special-status species, including western pond turtle, several bird species, several fish species and possibly California red-legged frog, unless protective measures are taken to avoid and mitigate construction-related impacts and avoid and mitigate substantial habitat loss.	PS	Mitigation Measure BIO-1a: In order to mitigate for on-site impacts to special-status species, the project developer shall obtain all necessary permits from the CDFG, USACE, USFWS, and the RWQCB/State Water Resources Control Board (SWRCB) as required by federal and State law to avoid, minimize or offset impacts to any species listed under either the State or federal Endangered Species Acts or protected under any other State or federal law as follows: ♦ Before project implementation, a delineation of waters of the United States, including wetlands that would be affected by development, shall be made by qualified biologists through the formal Clean Water Act section 404 process.	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact BIO-1 *(continued)*		♦ If based on the verified delineation, it is determined that fill of waters of the United States would result from project implementation, authorization for such fill shall be secured from the USACE through the section 404 permitting process. ♦ A CDFG Stream Bed Alteration Agreement and a RWQCB/ SWRCB Clean Water Act section 401 water quality certification may also be required by the project activities. The project developer shall obtain all legally-required permits from the CDFG and RWQCB/SWRCB. ♦ Consultation or incidental take permitting may be required under the Endangered Species Act. The project developer shall obtain all legally-required permits from the USFWS for the "take" of protected species under the Endangered Species Act. ♦ Evidence that the applicant has secured any required authorization from these agencies shall be submitted to the Community Development Department of the City of Napa prior to issuance of any grading or building permits for the project.	
		Mitigation Measure BIO-1b: *Raptors*: ♦ If grading and vegetation removal is to be initiated during the months of April through August (the raptor nesting season) preconstruction surveys shall be conducted for loggerhead shrike and tree-nesting raptors at locations with a potential for nesting activity. These locations include the undeveloped lands within 300 feet of the valley oaks, Tulocay Creek channel and seasonal wetlands.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact BIO-1 *(continued)*		◆ The surveys shall be conducted by a qualified biologist no more than 30 days prior to initiation of grading or vegetation removal, whichever is first. ◆ If any raptor nests are found within the construction area after April and before August, grading and construction in the area shall either stop or continue only after the nests are protected by an adequate setback of no less than 100 feet approved by a qualified biologist. ◆ The setback shall be maintained during the nesting season for the period encompassing nest building and continuing until fledglings leave the nest. This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season in the presence of nests that are known to be occupied. ◆ Setbacks shall be marked by brightly colored temporary fencing. ◆ If it is not feasible to maintain setbacks for the entire nesting season as specified in the forth bullet above, setbacks may be eliminated with the approval of the City if a qualified biologist verifies that nesting birds have either (a) not begun egg-laying and incubation, or (b) that the juveniles from those nests are foraging independently and capable of independent survival at an earlier date. ◆ Pre-construction surveys are not required if construction activities associated with these specific improvements are restricted to the non-nesting season (September through March).	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact BIO-1 *(continued)*		Mitigation Measure BIO-1c: *Pond turtle:* ◆ Developer shall be responsible for obtaining a pre-construction nesting survey for the western pond turtle (a) at locations with aquatic habitat throughout the year or (b) at locations with potential for nesting activity if grading and vegetation removal is to be initiated during the months of April through November. ◆ Locations of potential turtle nesting requiring pre-construction surveys include undeveloped lands within 100 feet of the Tulocay Creek channel and the stormwater ponds on the Gasser South site. ◆ The surveys shall be conducted by a qualified biologist no more than 15 days prior to initiation of grading or vegetation removal, whichever is first. ◆ If active turtle nests are identified, a buffer area of 300 feet shall be established between the nest and the drainage segment nearest the nest. Buffer areas shall be indicated by temporary, brightly colored fencing if construction has begun or will begin before the nesting period ends. ◆ If construction begins outside of the active nesting season (from December through March), then a pre-construction survey shall not be required for turtle nesting, but an inspection of any channel segment to be affected by proposed construction shall still be conducted within 15 days prior to any in-channel disturbance, and any turtles relocated to secure habitat outside the construction zone.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact BIO-1 *(continued)*		Mitigation Measure BIO-1d: *Fish:* Prior to construction of the Gasser Drive bridge over Tulocay Creek, appropriate construction restrictions shall be implemented to avoid take of steelhead and other listed special-status fish species. • Any in-channel construction activity shall be restricted to the period when stray or dispersing fish would not be expected within this channel segment, from June 15 through October 15. • Adequate measures, defined during the consultation with the USACE, CDFG, USFWS, and RWQCB/SWRCB, shall be taken during in-channel construction to minimize disturbance and sedimentation, temporarily contain flow of surface water across the construction zone, and ensure that no listed fish species are trapped within the construction zone prior to commencement of dewatering or other in-channel disturbance.	
		Mitigation Measure BIO-1e: *Frogs:* Developer shall implement appropriate avoidance measures and shall obtain pre-construction surveys for California red-legged frog prior to the construction of the Gasser Drive bridge over Tulocay Creek, or modifications within 100 feet of ponded water on the Gasser North and Gasser South sites. The USFWS has outlined mitigation measures for activities authorized by the USACE under their Nationwide Permit program in their *Programmatic Formal Endangered Species Act Consultation on Issuance of Permits under Section 404 of the Clean Water Act or Authorizations under the Nationwide Permit Program for projects that May*	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact BIO-1 *(continued)*		*Affect the California Red-legged Frog* (USFWS letter report, dated January 26, 1999). The following procedures are adapted from the Programmatic opinion by the USFWS and shall be implemented to avoid potential impacts: ♦ At least 15 days prior to the onset of construction activities, the project developer shall submit the name(s) and credentials of biologists who would conduct activities associated with California red-legged frog. No project activities shall begin until the project proponent has received written approval from the UFWS that the biologist(s) is qualified to conduct the work. ♦ The approved biologist(s) shall survey the construction zone two weeks before any construction activities are initiated. If California red-legged frogs, tadpoles, or eggs are found, the approved biologist shall contact the USFWS, as appropriate, to determine if moving any of these lifestates is appropriate. Only approved biologists shall participate in activities associated with the capture, handling, and monitoring of California red-legged frogs. ♦ Before any construction activities begin, the approved biologist(s) shall conduct a training session for all construction personnel. At a minimum, the training shall include: (a) a description of the California red-legged frog and habitat for this species; (b) the general measures that are being implemented to conserve this species as they relate to the project, and (c) the boundaries within which the project may be accomplished.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact BIO-1 *(continued)*		♦ A USFWS-approved biologist shall be present at the work site until such time as all removal of California red-legged frogs, instruction of workers, and habitat disturbance have been completed. After that time, the project developer shall designate a person to monitor on-site compliance with all minimization measures. The monitor and the USFWS-approved biologist shall have the authority to halt any action that might result in impacts that exceed the levels anticipated by the USACE or USFWS. ♦ During project activities, all trash that may attract predators shall be properly contained, removed from the work site and disposed of properly. ♦ All fueling and maintenance of vehicles and other equipment, and staging areas, shall be located at least 20 meet from the drainage or water body. Prior to the onset of work, the USACE shall ensure that the project proponent has prepared a plan to allow a prompt and effective response to any accidental spills into the drainage. All workers shall be informed of the importance of preventing spills and the appropriate measures to take should a spill occur. ♦ The number of access routes, number and size of staging areas, and total area of the activity shall be limited to the minimum necessary to complete the project. Routes and boundaries shall be clearly demarcated, and these areas shall be located outside the riparian habitat. ♦ Instream work (dewatering and pile driving) will only occur between June 15 and October 15 during low flow periods. Should the project developer demonstrate a need to conduct activities outside this time period, the USACE may authorize such activities after obtaining the USFWS approval.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact BIO-1 *(continued)*		◆ The channel bottom shall remain earthen and will not be raised or lowered. To control erosion during and after project construction, the project proponent shall implement Best Management Practices, as identified by the RWQCB and described in a Stormwater Pollution Prevention Plan. ◆ The USFWS-approved biologist shall permanently remove, from within the project site, any individuals of exotic wildlife species, such as bullfrogs and crayfish to the extent possible. ◆ If the work site is temporarily de-watered by pumping, intakes shall be completely screened with wire mesh not larger than five millimeters to prevent California red-legged frogs, from entering the pump.	
Impact BIO-2: Development associated with implementation of the project is not expected to affect any well-developed sensitive natural communities and measures designed to protect wetlands would serve to generally avoid these areas. However, the project could adversely affect the few oaks on the site.	PS	Mitigation Measure BIO-2: Developer shall ensure that the location of individual valley oaks in the western portion of Gasser South are accurately mapped through an engineered survey, and these trees shall be preserved. Grading, paths and hardscape improvements shall be restricted to areas outside the dripline of these trees to avoid disturbance to the sensitive root zone, possible damage to the trunk and lower limbs, reduce the potential hazard by future limb drop, and allow for establishment of new oaks and future regeneration. These valley oaks shall be identified as a "no-disturbance zone" on all grading and improvement plans, construction crews informed that the trees and zone are to be avoided, and construction restriction fencing installed prior to initiation of any grading and maintained in place throughout construction.	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact BIO-3: Development associated with implementation of the proposed project could affect areas of jurisdictional wetlands and other waters.	PS	Mitigation Measure BIO-3: ♦ Disturbance to jurisdictional wetlands and waters shall be avoided and minimized to the extent feasible with the exception of the proposed restoration and enhancement efforts, and appropriate authorization obtained from jurisdictional agencies where avoidance is determined to be infeasible. Developer shall coordinate proposed modifications to jurisdictional wetlands and waters with representatives of the USACE, RWQCB and CDFG. ♦ The acreage of waters of the United States and riparian habitat that would be removed shall be replaced or restored/enhanced on a "no-net loss basis" in accordance with USACE and CDFG regulations. ♦ A detailed mitigation plan shall be prepared by a qualified wetland consultant for any wetlands or waters affected by proposed development, with replacement provided at a minimum 1:1 ratio. The plan shall clearly identify the total wetlands and other jurisdictional areas affected by proposed improvements, as well as wetlands to be created, restored, or enhanced as part of the wetland mitigation. Any replacement wetlands shall be consolidated to the degree possible to improve existing habitat values. The plan shall specify performance criteria, maintenance and long-term management responsibilities, monitoring requirements, and contingency measures. Monitoring shall be conducted by the consulting wetland specialist for a minimum of five years and continue until the success criteria are met.	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact BIO-3 *(continued)*		♦ As required by Napa Municipal Code section 17.52.530, recommendations from the USACE and CDFG, including any requirement for wetland replacement or wetland restoration and management plans that were developed during consultation with these agencies, shall be incorporated into the mitigation plan. Habitat restoration, enhancement and/or replacement shall be at a location agreeable to the USACE and CDFG, as determined during the permitting processes for CWA section 404 and California Fish and Game Streambed Alteration Agreement. ♦ The project shall comply with Napa Municipal Code sections 17.52.110 and 17.52.530.	
Impact BIO-4: Development associated with implementation of the proposed project would impact sensitive wildlife habitat features and obstruct movement corridors.	PS	Mitigation Measure BIO-4a: Developer shall revise the proposed project to maintain an upland wildlife link of open space along the north side of the Tulocay Creek between the northern seasonal wetland and the restored open space along the Napa River, preserving opportunities for terrestrial wildlife movement between these important habitat areas. This shall include the following provisions: ♦ Proposed Residential Use shall be restricted a minimum of 200 feet from the north side of the Tulocay Creek corridor at the southwestern edge of Gasser North to allow for continued movement of terrestrial wildlife species between the on-site seasonal wetlands and the restored open space along the Napa River. ♦ The additional setback area shall be enhanced as riparian and upland native grasslands, and revegetated as part of restoration and enhancement of the adjacent seasonal wetlands within a minimum 100-foot setback from the north bank of Tulocay Creek.	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact BIO-4 *(continued)*		♦ Any improved pedestrian/bike pathways and intensive recreational uses such as ballfield, playground and tot-lots, and intensively managed turf areas shall be restricted to the northern edge of the proposed open space area to provide a transition to the sensitive habitat along the Tulocay Creek channel. These uses shall not extend into the minimum 100-foot setback from the north bank intended to serve as a native habitat movement corridor for terrestrial wildlife. ♦ The proposed interpretive program designed to protect sensitive wetland habitat around the perimeter of seasonal wetlands on the site shall be extended to include protective signage along the north edge of native habitat setback along the Tulocay Creek corridor.	
		Mitigation Measure BIO-4b: Developer shall design the proposed bridge crossing of the Tulocay Creek channel to minimize disruption of possible fish and wildlife movement in the channel. Any new crossing shall be oriented as close to perpendicular to the channel as possible to minimize disturbance to the drainages and the length of any structure over the channel. A natural bed shall be maintained below any new crossing structure and no in-channel barriers such as a weir or drop structure shall be created which could impede movement of fish or wildlife.	
		Mitigation Measure BIO-4c: Except as otherwise noted above in Mitigation Measure BIO-4a, new structures and parking improvements shall be located a minimum of 50 feet from wetlands to be preserved or enhanced.	
		Mitigation Measure BIO-4d: Wildlife fencing of protected wetlands, as required by the RWQCB, shall be limited to 4 feet in height, unless, as a part of subsequent review, the City of Napa makes findings that a higher fence is needed in a particular portion of the area, due to safety considerations.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact BIO-5: Table 4.7-5 discusses the extent to which the project and its effect on biological and wetland resources would conflict with a number of the relevant goals and policies in the City of Napa General Plan. These General Plan goals and policies tend to be fairly broad, but basically call for protection of sensitive biological and wetland resources. As explained below, the project mitigation required by this EIR and as part of the consultation process with the USACE, CDFG and RWQCB would ensure that the project's impacts on biological and wetland resources are reduced to a less-than-significant level and that the project would be consistent with applicable General Plan policies.	PS	Implementation of Mitigation Measures BIO-1a, BIO-1b, BIO-1c, BIO-d, BIO-1e, BIO-2, BIO-3, BIO-4a, and BIO-4b would reduce potential biological impacts to a *less-than-significant* level. No additional mitigation measures are required to ensure compliance with applicable goals and policies in the City of Napa General Plan.	LTS
GEOLOGY, SOILS & SEISMICITY			
Impact GEO-1: Large earthquakes could generate strong to violent ground shaking at the site and could cause damage to buildings and infrastructure and threaten public safety.	PS	Mitigation Measure GEO-1a: As required by the City of Napa's Policy Resolution 27, all construction activities shall meet the Uniform Building Code regulations for seismic safety (i.e., reinforcing perimeter and/or load bearing walls, bracing parapets, etc.) (PR 27 Mitigation Geology and Soils VI.2.) The proposed project would be required to comply with the provisions of the national and California UBCs. Seismic design provisions of the UBC generally prescribe minimum lateral forces, applied statistically to the structure and combined with the gravity forces of dead and live loads. The UBC-prescribed lateral forces generally are substantially smaller than the expected peak forces that would be associated with a major earthquake. Therefore, when built according to UBC standards, structures are anticipated to (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some nonstructural damage; and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage.	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact GEO-1 *(continued)*		Conformance to the current building code standards does not guarantee that significant structural damage will not occur in the event of a maximum magnitude earthquake; but it is reasonable to expect that a well-designed and well-constructed structure would not collapse or cause loss of life in a major earthquake.	
		Mitigation Measure GEO-1b: As required by the City of Napa's Policy Resolution 27, all project-related grading, trenching, back-filling and compaction operations shall be conducted in accordance with the City of Napa Public Works Department Standard Specifications. All grading shall conform to regulations for seismic safety contained in the UBC (PR 27 Mitigation Geology and Soils VI.1.)	
		Mitigation Measure GEO-1c: As required by the City of Napa's Policy Resolution 27, for all subdivision and parcel maps, the applicant has prepared a Soils Investigation/Geotechnical Report in accordance with Section 16.36.200 of the NMC which is subject to the City's review and approval. The improvement plans shall incorporate all design and construction criteria specified in the report. The geotechnical engineer shall sign the improvement plans and approve them as conforming to their recommendations prior to parcel/final map approval. The geotechnical engineer shall also assume responsibility for inspection of the work and shall certify to the City, prior to acceptance of the work, that the work performed is adequate and complies with its recommendations. Additional soils information may be required by the Chief Building Inspector during the plan check of individual building plans in accordance with Title 15 of the NMC. (PR 27 Mitigation Geology and Soils VI.5.)	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact GEO-2: The proposed project facilities could be damaged by liquefaction.	PS	Mitigation Measure GEO-2: The recommendations for both special foundations and ground modification and other geotechnical engineering measures specified in the applicant's geotechnical reports shall be implemented during design and construction. These measures include engineering and compaction of new fills, removal of compressible soils, and use of relatively rigid, deepened spread-footing foundations. These measures would be implemented in the development area and would not extend into the channel or banks of Tulocay Creek. Documentation of the methods used shall be provided in the required final geotechnical report(s).	LTS
Impact GEO-3: Lateral spreading during future earthquakes could cause severe damage to structures and threaten public safety.	PS	Mitigation Measure GEO-3: Lateral spreading will be mitigated by correcting the liquefaction hazard to which it is related. These measures shall include: ♦ engineering and compaction of new fills, ♦ removal of compressible soils, and ♦ use of relatively rigid, deepened, spread-footing foundations.	LTS
Impact GEO-4: Expansive soils could cause damage to foundations and pavements.	PS	Mitigation Measure GEO-4: As a part of final design, specific recommendations for mitigation of expansive soils under pavements and structures shall be provided by the project geotechnical engineer. These recommendations should be based on testing of the in-situ fill materials. The recommendations shall be submitted to the City as a part of building and/or paving plan submittals.	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact GEO-5: The existing fills could undergo settlement that could cause damage to foundations and pavements.	PS	Mitigation Measure GEO-5: Poorly compacted fills will be mitigated by excavation and/or additional compaction. The geotechnical recommendations for mitigation of existing and proposed fills, and for settlement of native soils, that are contained in the applicant's geotechnical reports shall be implemented. These measures include removal and re-compaction of pre-existing loose fills, and proper engineering and compaction of all new fills.	LTS
Impact GEO-6: The project grading would alter topography and include fills that could be subject to erosion.	PS	Mitigation Measure GEO-6a: As required by the City of Napa's Policy Resolution 27, the developer shall provide an erosion and sediment control plan and a schedule for implementation of approved measures to the Public Works Director for approval with the first improvement plans submitted for review. No grading and excavation shall be performed except in accordance with the approved plan and schedule. (PR 27 Mitigation Geology and Soils VI.3.)	LTS
		Mitigation Measure GEO-6b: As required by the City of Napa's Policy Resolution 27, hydroseeding of all disturbed slopes shall be completed by October 1; Developer shall provide sufficient maintenance and irrigation of the slopes such that growth is established by November 1. (PR 27 Mitigation Geology and Soils VI.4.)	
		Mitigation Measure GEO-6c: All storm drainage improvements shall conform to the Uniform Building Code and the City storm drainage ordinance.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact GEO-7: Table 4.8-3 discusses the extent to which the project, and its effect on geology and soils, would conflict with a number of the relevant goals and policies in the City of Napa General Plan. These goals and policies tend to be fairly general, but basically call for (1) protection of structures and lives from geologic hazards and (2) control of erosion. The relevant goals and policies are set out in Table 4.8-3 below.	PS	Mitigation Measure GEO-7: As explained above and in Table 4.8-3, with mitigation required elsewhere in this EIR, the project's impacts on geology and soils are reduced to a less than significant level and that the project would be consistent with applicable General Plan policies. Implementation of Mitigation Measures GEO-1a, GEO-1b, GEO-1c, GEO-6a, GEO-6b, and GEO-6c as well as HYDRO-1a, HYDRO-1b, BIO-1a, and BIO-3. No additional mitigation measures are required. Implementation of these mitigation measure would reduce potential erosion impacts to a less-than-significant level.	LTS
HAZARDS & HAZARDOUS MATERIALS			
Impact HAZ-1: Project construction would employ hazardous materials that could be accidentally released on site. Although it is very unlikely that this impact would occur at any significant level, this impact is conservatively considered a potentially significant impact.	PS	Mitigation Measure HAZ-1a: If a small quantity of hazardous materials is released from a service truck during equipment maintenance or fueling of equipment and vehicles, site personnel shall clean up small spills and place the waste in 55-gallon drums for characterization and off-site disposal. In the case of a large spill, contaminated soils shall be placed into barrels or roll-off boxes by service personnel or off-site contractors for subsequent evaluation and off-site disposal.	LTS
		Mitigation Measure HAZ-1b: Hazardous materials shall be managed and handled by trained maintenance and service personnel. Hazardous materials shall be stored in locked areas or cabinets with secondary spill containment to minimize impacts should a spill occur. Incompatible materials shall be stored separately.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		Mitigation Measure HAZ-1c: Before construction commences, a Spill Prevention, Control, and Countermeasure (SPCC) Plan and a Hazardous Materials Business Plan (HMBP) shall be prepared, if the volumes of hazardous materials stored onsite exceed the threshold requirements.	
POPULATION, EMPLOYMENT & HOUSING			
No population, employment or housing impacts were identified, so no mitigation measures are required.			
PUBLIC SERVICES			
Solid Waste			
Impact PUB-1: Implementation of the project could affect the ability of the City of Napa to meet its goal of diverting 50 percent of the waste stream if adequate space for waste collection infrastructure is not provided.	PS	Mitigation Measure PUB-1: As specified in the City of Napa's Policy Resolution 27, the following measures shall be implemented. ♦ Developer of a commercial, industrial or multi-family project with common waste disposal facilities shall submit to and receive approval from the Public Works Director of a source reduction plan which meets the City's Source Reduction and Recycling Element and implementing guidelines. (PR 27 Mitigation Utilities and Service Systems XVI.11.) ♦ A recycling/solid waste enclosure shall be provided in accordance with Chapter 17.102, et seq. of the NMC for all commercial, industrial and multi-family projects with common solid waste facilities. (PR 27 Mitigation Utilities and Service Systems XVI.12.)	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact PUB-2: Construction waste generated as a result of development under the Gasser Master Plan could affect the ability of the City of Napa to meet its goal of diverting 50 percent of the waste stream.	PS	Mitigation Measure PUB-2: Developer shall ensure that the following measures specified in the City of Napa's Policy Resolution 27 are implemented during construction: ♦ During the construction/demolition/renovation period of the project, Developer shall use the franchised garbage hauler for the service area in which the project is located to remove all wastes generated during project development, unless Developer transports project waste. If the Developer transports the project's waste, Developer must use the appropriate landfill for the service area in which the project is located. (PR 27 Mitigation Utilities and Service Systems XVI.9.) ♦ Developer shall provide for the source separation of wood waste for recycling. Developer shall use the franchised garbage hauler for the service area in which located for collection of such wood waste, unless the Developer transports such wood waste to a location where wood waste is recycled. (PR 27 Mitigation Utilities and Service Systems XVI. 10.)	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Fire and Emergency Services			
Note: The following mitigation measures are in response to Impact HYDRO-4 which was copied as Impact PUB-3 to Section 4.11 at the request of the City of Napa Fire Marshall. Impact PUB-3: *Flood hazards (baseline).* The Master Plan calls for the development of a variety of office, retail, commercial, residential, and other uses within a designated floodplain and floodway of the Napa River. While most of the site will be removed from the designated floodplain under baseline conditions, interim, residual, and persistent flood hazards, including events larger than a 100-year flood, may affect the site and flood hazards will therefore result from the new exposure caused by the proposed new development. As a result of new development on the site, additional property and persons will potentially be subject to flood hazards. This is a potentially significant impact.	S	Mitigation Measure PUB-3a: *Evacuation Route and Emergency Operations Plan.* All residential development at the project site shall be required to provide analysis demonstrating that an evacuation route from each structure can reasonably be expected to exist that will not be submerged by one or more feet of water during a 100-year flood event, regardless of whether or not a flood evacuation area designation exists for the proposed development area. The analysis supporting this conclusion shall be performed by a registered civil engineer and supporting documentation provided to the City of Napa's Public Works Director prior to final building clearance. All non-residential development at the project site shall be required to provide an emergency operations plan in accordance with FEMA Technical Bulletin 3-93 to the City of Napa's Public Works Director prior to final building clearance. For the purposes of this measure, Tulocay Creek levees shall be presumed ineffective unless they are certified to FEMA as adequate to contain a discharge equal to or larger than the Flood Control District's current 100-year flow estimate. This measure will ensure that the site can be evacuated during most flood events.	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact PUB-3 *(continued)*	S	Mitigation Measure PUB-3b: *Flood Evacuation Area; Flood Evacuation Plan.* All developments at the project site within the flood evacuation area, regardless of use, shall be required to develop a flood evacuation plan, as presently required by the City for only certain residential developments under City Municipal Code Section 17.38.070. The flood evacuation plans adapted to the planned use shall be developed in accordance with Subsections A, B, and C of that Section. The flood evacuation plans must be approved by the City Public Works Director prior to final building permit clearance; all components of these plans must be developed and implemented prior to final clearance of building permits. This measure will reduce public safety flood risks for all proposed new development at the site, regardless of use, by providing evacuation planning. ~~Although no impacts were identified~~ In addition to Mitigation Measure PUB-3, the project applicant would be required to comply with the following mitigation measures, as specified in the City of Napa's Policy Resolution 27 (PR 27): ♦ The Developer of any project which proposes commercial occupancies shall secure approval from Fire Prevention and Building Departments prior to signing lease agreements and allowing occupancy of prospective occupants that pose possible fire and life safety hazards, or are classified by the Uniform Building Code as an H (hazardous) occupancy.	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact PUB-3 *(continued)*		♦ Developer shall pay the required fire and paramedic fees for new development in accordance with Napa Municipal Code Chapter 15.78. Such fees shall be payable at the rate in effect at the time of payment for the unit involved. The findings set forth in the ordinance and Resolution 94-106 are incorporated herein. The City further finds that calculation of the fee pursuant to the formula set forth therein demonstrates that there is a reasonable relationship between the fees imposed and the cost of improvements attributable to this project. (PR 27 Mitigation Public Services XIII.6.)	
Police			
Since no impacts were identified, no mitigation measures would be required.			
Schools			
Impact PUB-~~3~~4: The increase in population resulting from the proposed project would increase demand on schools and the need to construct new school facilities.	PS	Mitigation Measure PUB-~~3~~4: The project applicant shall pay its fair share of fees to the NVUSD to help pay for new schools. At present, the NVUSD calculates those fees at $2.05 per square foot for residential development and $0.33 per square foot for commercial development.	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Parks and Recreation			
Impact PUB-45: Because the proposed project does not include a neighborhood park, construction of Tulocay Village would increase the demand for parkland and increase the use of existing park facilities potentially leading to the physical deterioration of these facilities.	PS	Mitigation Measure PUB-45: The following measures specified in the City of Napa's Policy Resolution 27 shall be implemented: ♦ Developer shall pay the required fees for each new dwelling unit in accordance with the Napa Municipal Code Chapter 15.68. Such fees shall be payable at the rate in effect at the time of payment for the unit involved. The findings set forth in the ordinance and Resolution 92-084 are incorporated herein. The City further finds that calculation of the fee due pursuant to the formula set forth in Section 15.68.040 of the Napa Municipal Code demonstrates that there is a reasonable relationship between the fees imposed and the cost of the improvement attributable to this project (PR 27 Mitigation Recreation XIV.1.). ♦ Unless project approval requires only land dedication, the Developer shall pay in-lieu park dedication fee(s) in accordance with and for the purposes of NMC Sections 16.32.040, 15.68.010 and 15.68.090 for each residential unit authorized or allowed by project approval. Such fee(s) shall be payable at the rate in effect at the time of payment. The findings set forth in the ordinances and in Resolution 92-084 are incorporated herein. The City further finds that the calculation of fees in accordance with the formula set forth in NMC Section 16.32.040D demonstrates that there is a reasonable relationship between the amount of fees imposed and the costs or acquisition attributable to the project (PR 27 Mitigation Recreation XIV.2.).	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
		♦ Prior to trenching within existing roadway areas, the developer's engineer shall ascertain the location of all underground utility systems and shall design any proposed subsurface utility extensions to avoid disrupting the services of such systems. (PR 27 Mitigation Utilities and Service Systems XVI.1.) ♦ The project shall be connected to the City of Napa water system. Any existing well must be properly protected from potential contamination. If an existing well is to be destroyed, a well-destruction permit must be obtained from the Napa County Department of Environmental Management by a licensed well driller. If an existing well is not destroyed, it must be properly protected and an approved backflow prevention device installed according to the Water District's specifications. (PR 27 Mitigation Utilities and Service Systems XVI.4.)	
Impact UTIL-1: Failure to meet applicable fire flow standards would adversely affect the ability of the Napa Fire Department to provide adequate service to the project.	PS	Mitigation Measure UTIL-1a: The project applicant would be required to comply with the following mitigation measures, as specified in the City of Napa's Policy Resolution 27 (PR 27): ♦ Developer shall comply with all applicable requirements of the Uniform Fire Code and the Fire Department and PWD Standard Specifications and the Fire Department "Standard Requirements for Commercial/Residential Projects," including, without limitation, the requirements for access, new construction, smoke detectors, fire extinguishers, fire hydrants, etc. Existing fire hydrants may be used to meet hydrant location requirements only if they meet or are changed to meet current hydrant specifications. (PR 27 Mitigation Public Services XIII.1.)Properties having common ownership shall provide the Fire Department with a notarized	LTS

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact UTIL-1 *(continued)*		copy of the recorded conditions, covenants, and restrictions agreement in a form satisfactory to the City Attorney ensuring that all components of fire protection system(s), and fire access roads will be maintained by a maintenance district, owner's association, or similar legally responsible entity. (PR 27 Mitigation Public Services XIII.2.) ◆ All newly constructed buildings must have automatic sprinkler systems conforming to NFPA and City Standard Specifications, for which installation permit must be obtained from Fire Prevention. In multi-building complexes, or in buildings with three or more stories, special monitoring conditions will be required. Existing habitable buildings, which are retained, shall be retrofitted. (PR 27 Mitigation Public Services XIII.3.) ◆ The Developer of any project proposing a change in occupancy use classification (as defined in the Uniform Building Code Table 5A) in a building protected by automatic fire sprinklers shall have the sprinkler system evaluated by a licensed fire sprinkler contractor or fire protection engineer for compliance with National Fire Protection Association Installation Standards. A written report of the inspection findings shall be submitted to the Fire Department prior to final occupancy clearance. A permit is required from Fire Prevention for sprinkler system alterations. (PR 27 Mitigation Public Services XIII.4.)	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact UTIL-1 *(continued)*		♦ Examples of these types of occupancies are: storage of flammable, combustible, explosive, or toxic materials, manufacturing processes involving the above, woodworking shops, tire rebuilding or storage, automotive repair, auto body repair and/or painting, factories where loose combustible fibers are present, semi-conductor fabrication facilities, bulk paint storage, etc. (PR 27 Mitigation Public Services XIII.5.)	
		Mitigation Measure UTIL-1b: Developer shall ensure that the existing Zone 1 water mains and services on Oil Company Road and Sousa Lane shall be switched over to Zone 3 and a new Zone break shall be installed north of Sousa Lane on Soscol Avenue. This change in zones will provide the increased fire flows necessary for development of the Gasser property and will provide a third connection to the City's 24-inch transmission main that runs north along Soscol Avenue and Silverado Trail.	
		Mitigation Measure UTIL-1c: Due to the high pressures of Zone 3 compared to Zone 1, developer shall ensure that water pressure reducers are installed on all services that are switched over from Zone 1 to Zone 3. Mitigation Measure UTIL-1d: Developer shall ensure that a water main connection is made on the west side of Soscol Avenue from the Silverado Trail intersection to Oil Company Road intersection in conjunction with the transfer of the portion of Zone 1 to Zone 3.	

Table 2-1 *continued*

Significant Impact	Significance Before Mitigation	Mitigation Measures	Significance With Mitigation
Impact UTIL-1 *(continued)*		Mitigation Measure UTIL-1e: Developer shall ensure that a water main connection shall be made through the Gasser Property from the existing 12-inch water main on Gasser Drive to the existing 8-inch water main connection north of the Silverado Trail/Soscol Avenue intersection.	
		Mitigation Measure UTIL-1f: Water main sizes for the infrastructure improvements shall be verified by a hydraulic analysis by the developer prior to approval of improvements to the project property.	
Wastewater			
		Although no impacts were identified, the project applicant would be required to comply with the following mitigation measures, as specified in the City of Napa's Policy Resolution 27 (PR 27): ♦ The project shall be connected to the Napa Sanitation District for sanitary sewer service. If the subject property is presently served by individual sewage disposal systems, the septic systems, set backs, and reserve areas must be protected and maintained during cleaning, grading, construction, and after connection to the District, the existing septic tank(s) shall be properly destroyed. (PR 27 Mitigation Utilities and Service Systems XVI.3.)	

Appendices

A Conditions of approval including proposed changes

B Crane Transportation Group November 2, 2015 report, Gasser North Master Plan Traffic Study (the "Traffic Report").

Modifications to the specific Conditions of Approval of the Gasser Master Plan. A complete listing of all applicable conditions of approval is included within the draft resolution.

Gasser Drive Extension

COA 24. The Developer shall ~~make a "Fair Share contribution" to the cost to~~ to design and construct the Gasser Drive Bridge and Extension (~~Kansas Avenue to Soscol Avenue), including the new Gasser Drive Bridge~~ over Tulocay Creek. ~~("Extension Project"). The total cost of the "Extension Project" shall include the cost to finalize the design, acquire property rights necessary to build the project, and construct the improvements. Said Contribution shall be based upon the percent contribution of the Gasser North Master Plan full development traffic to year 2020 weekday PM peak hour volumes along the proposed Gasser Drive extension. Draft study findings demonstrate that the Gasser North Master Plan contributes 17.4% to year 2020 PM Peak Hour volumes along the Gasser Drive extension north of Kansas Avenue.~~

The Gasser Drive Bridge and Extension shall be designed to accommodate a single southbound travel lane, a single northbound travel lane, a 5 foot wide southbound bicycle lane, a 5 foot wide northbound bicycle lane, and a sidewalk on the east side of the street.

The Gasser Drive Bridge and Extension improvements shall include a dedicated right turn pocket for southbound Soscol Avenue at Gasser Drive, as well as, the signalization of the Gasser Drive/Kansas Avenue intersection. The intersection geometry at this new signalized intersection shall be as follows:

a.) Northbound Gasser Drive: (1) through lane and (1) right-turn lane
b.) Southbound Gasser Drive: (1) shared through/left-turn lane
c.) Westbound Kansas Avenue: (1) left-turn lane and (1) right-turn lane

This condition may require an irrevocable offer of dedication of property by the Developer to the City. The Developer previously dedicated an 84' Right-of-Way for the Gasser Drive Extension to the City. The final Right-of-Way width shall be sufficient to accommodate the roadway configuration identified in Paragraph 2 above, as well as, the Right-of-Way for a future sidewalk on the west side of the street (not to be constructed at this time) and any bioretention areas required for stormwater quality. Excess Right-of-Way of the previously dedicated 84' outside of the final Right-of-Way width required shall be abandoned, with initial proceedings to begin within 60 days of the completion of the construction of the Gasser Drive Bridge and Extension.

~~The Developer shall pay the Fair Share Contribution calculated pursuant to the methodology identified in paragraph 1 prior to the issuance of the first building permit or filing of the final map of the North area, whichever comes first. Alternatively, the~~

~~Developer may have these improvements and the payment of the "Fair Share Contribution" included in a Subdivision Improvement Agreement or Project Improvement Agreement (which will include the requirement for improvement security as required per the Napa Municipal Code) which must be executed by the Developer and the City prior to the issuance of the first building permit or filing of the final map for the North area, whichever comes first.~~

~~The City, within five years of the date of the payment of the "Fair Share Contribution", shall adopt a proposed construction schedule for the Extension Project or refund the "Fair Share Contribution" payment to the Developer. To the extent those funds are expended by the City on the design of the Extension Project and then the City later elects not to complete the Project, those previously expended funds are not subject to reimbursement.~~

~~Kansas Avenue/Gasser Drive shall be overlayed and re-striped from the Hartle Court/Gasser Drive intersection to the Kansas Avenue/Soscol Boulevard intersection as shown on the approved plans prepared as part of COA 4.~~

The Developer shall be ~~solely~~ responsible for the construction and installation of these improvements ~~described in paragraph 4 of this COA 24~~ prior to ~~occupancy of the first non-theater building of either the South or the North area, whichever occurs first.~~ the issuance of the first building permit for the "North" area or filing of the first final map, whichever comes first. Alternatively, the Developer may have these improvements included in a Subdivision Improvement Agreement or Project Improvement Agreement (which will include the requirement for improvement security as required per the Napa Municipal Code) which must be executed by the Developer and the City prior to the issuance of the first building permit for the "North" area or filing of the final map, whichever comes first.

The City shall provide a credit against all remaining Street Improvement Fees (SIF) that would be due on any building permits issued on and after April 1, 2016 from properties within the Creekside District, Tulocay Place District and the Tulocay Village District of the Gasser Master Plan.

Silverado Trail (SR-121)/Soscol Avenue (SR-121)/Gasser Drive intersection Realignment

COA 25. ~~The intersection of Silverado Trail/Soscol Avenue and Gasser Drive may be realigned and reconstructed to form a standard four-leg intersection ("Realignment Project") consistent with the City of Napa General Plan Transportation Element, which currently envisions the future widening of the southbound Silverado Trail approach to accommodate two additional lanes of traffic.~~

The Developer shall make a Fair Share Contribution to the cost ~~of the Realignment Project or to the cost of other improvements that the City chooses to make at the~~

~~intersection that are designed to allow the intersection to function more safely and efficiently.~~ to construct a second westbound left-turn lane at the intersection of Silverado Trail and Soscol Avenue. The total cost of the ~~Realignment Project~~ improvement shall include the cost to finalize design, acquire property rights necessary to build the project ~~acquisitions~~, and construct the improvements ~~(including those certain Water System Improvements identified in COA 47 and other as of yet undetermined utility relocations and improvements)~~. Said Contribution shall be based upon the percent contribution of the Gasser North Master Plan full development traffic to year 2020 weekday PM peak hour volumes at the intersection. The Traffic Impact Report findings demonstrate that the Gasser North Master Plan contributes 16.19% to year 2020 PM Peak Hour volumes at the intersection.

The Developer shall pay the "Fair Share Contribution" calculated pursuant to the methodology identified in paragraph 1 ~~2~~, prior to the issuance of the first building permit or the filing of the first final map, whichever comes first. Alternatively, the developer may have the payment of the "Fair-Share Contribution" included in a Subdivision Improvement Agreement or Project Improvement Agreement (which will include the requirement for improvement security as required per the Napa Municipal Code) which must be executed by the Developer and the City prior to the issuance of the first building permit or filing of the final map in the North Area, whichever comes first. ~~Draft study findings demonstrate that the Gasser North Master Plan contributes 5.4% to year 2020 PM Peak Hour volumes at the intersection.~~

~~The City, within five years of the date of the payment of the "Fair Share Contribution", shall adopt a proposed construction schedule for the Realignment Project, or other improvements to the intersection, or refund the "Fair Share Contribution" payment to the Developer. To the extent those funds are expended by the City on the design of the Realignment Project and then the City later elects not to complete the Project, those previously expended funds are not subject to reimbursement.~~

Soscol Avenue intersection with ~~Sousa Lane~~ Project Driveway

COA 27. The Developer shall design and construct a new traffic signal at the new Project Driveway ~~entrance.~~ and Soscol Avenue intersection. The new intersection~~/driveway~~ geometry shall be as follows:

a) North-bound Soscol Avenue: (2) through lanes and (1) left-turn lane
b) South-bound Soscol Avenue: (2) through lanes and (1) right-turn lane
c) Project ~~Entrance~~ Driveway: (1) west-bound receiving lane ~~and~~ (2) east-bound left-turn lanes and (1) eastbound right-turn lane.~~departure lanes~~

This condition ~~may~~ will require an irrevocable offer ~~to~~ of dedication of property by the Developer to the City. ~~which shall also occur upon submittal of the first application for the Gasser North Development.~~

The Developer shall be solely responsible for the construction and installation of these improvements prior to the issuance of the first building permit for the "North" area or filing of the first final map, whichever comes first. Alternatively, the Developer may have these improvements included in a Subdivision Improvement Agreement or Project Improvement Agreement (which will include the requirement for improvement security as required per the Napa Municipal Code) which must be executed by the Developer and the City prior to the issuance of the first building permit for the "North" area or filing of the final map, whichever comes first. This signal and additional lanes are not included in the Street Improvement Fee program.

Soscol Avenue intersection with Sousa Lane/ Oil Company Road

COA 28. The developer shall design and construct a re-configuration of the Oil Company Road/ Sousa Lane/Soscol Avenue intersection so that both the eastbound and westbound stop-controlled approaches of Oil Company Road/ Sousa Lane to Soscol Avenue both include ~~a single left-turn lane, a single through lane and~~ a single right-turn lane and a single receiving lane. As part of this reconfiguration, the developer shall design and construct a raised median along Soscol Avenue that prohibits left turn and through movements from Oil Company Road and Sousa Lane, but that allows for northbound and southbound left turn movements from Soscol Avenue.

This condition may require the acquisition of off-site real property. The Developer shall enter into a property acquisition agreement with the City (prior to the first of the following occurrences in the North area: approval of the first tentative map, or execution of the first Subdivision Improvement Agreement or Project Improvement Agreement), by which the following requirements will be documented: (1) Developer will make a reasonable good faith effort to acquire the necessary right-of-way at the Developer's cost within a specified timeframe; (2) if the Developer makes a reasonable good faith effort but is unable to acquire the necessary right-of-way within the specified timeframe, the Developer may request the City to acquire the necessary right-of-way through the exercise of eminent domain; (3) the Developer shall pay all costs incurred by the City to acquire the necessary right-of-way; (4) the Developer shall complete the improvements required by this condition at such time as the City acquires an interest in the necessary right-of-way that will permit the improvements to be made; and (5) if the City does not acquire an interest in the necessary right-of-way that will permit the improvements to be made, the Developer shall be relieved of the obligation to construct the off-site improvements. The developer should begin good faith efforts to identify and acquire any necessary property at its earliest opportunity, so that construction of required improvement is not delayed by this process.

The Developer shall be solely responsible for the construction and installation of these improvements prior to the issuance of the first building permit for the "North" area or filing of the first final map, whichever comes first. Alternatively, the Developer may have these improvements included in a Subdivision Improvement Agreement or Project Improvement Agreement (which will include the requirement for improvement security as required per the Napa Municipal Code) which must be executed by the Developer and the City prior to the issuance of the first building permit or filing of the final map for the "North" area, whichever comes first. This reconfiguration and additional lanes are not included in the Street Improvement Fee program.

Soscol Avenue/SR-121 Intersection with Kansas Avenue

COA 31. The Developer shall design and construct the following intersection improvements:

- Re-striping of eastbound Kansas Avenue at Soscol Avenue to install a double left turn lane, a single through and a single right-turn lane at the existing signals.

- Relocation of the existing signal and installation of a single westbound left turn lane, a single through lane and a single right turn lane at the existing signals.

- Addition of an overlap phases for the westbound, <u>eastbound</u> and southbound right-turn movements and provide protected phasing for the southbound left-turn movement.

These improvement plans will require Caltrans approval and a Caltrans encroachment permit.

The above improvements may require additional right-of-way along Kansas Avenue. The Developer shall enter into a property acquisition agreement with the City (prior to the first of the following occurrences in the North area: approval of the first tentative map, or execution of the first Subdivision Improvement Agreement or Project Improvement Agreement), by which the following requirements will be documented: (1) Developer will make a reasonable good faith effort to acquire the necessary right-of-way at the Developer's cost within a specified timeframe; (2) if the Developer makes a reasonable good faith effort but is unable to acquire the necessary right-of-way within the specified timeframe, the Developer may request the City to acquire the necessary right-of-way through the exercise of eminent domain; (3) the Developer shall pay all costs incurred by the City to acquire the necessary right-of-way; (4) the Developer shall complete the improvements required by this condition at such time as the City acquires an interest in the necessary right-

of-way that will permit the improvements to be made; and (5) if the City does not acquire an interest in the necessary right-of-way that will permit the improvements to be made, the Developer shall be relieved of the obligation to construct the off-site improvements. The developer should begin good faith efforts to identify and acquire any necessary property at its earliest opportunity, so that construction of required improvement is not delayed by this process.

The Developer shall be solely responsible for the construction and installation of these improvements prior to the issuance of the first building permit or filing of the first final map for the "North" area, whichever comes first. Alternatively, the Developer may have these improvements included in a Subdivision Improvement Agreement or Project Improvement Agreement (which will include the requirement for improvement security as required per the Napa Municipal Code) which must be executed by the Developer and the City prior to the issuance of the first building permit or filing of the final map for the "North" area, whichever comes first.

~~If the City adopts a construction schedule showing the improvements identified in COA 24 and 25 (Gasser Drive Extension, including new bridge of Tulocay Creek, and the "Realignment Project") will be completed prior to occupancy of the first unit of development in the North Area, then the improvements listed above at the Kansas Avenue/Soscol Avenue (SR-121) intersection are not required.~~

Soscol Avenue/SR-121 Intersection with Imola Avenue/SR-121

COA 33. The Developer shall design and construct the following intersection improvements:

- Installation on eastbound Imola Avenue of a double left turn lane, a single through lane, a right turn lane and a single receiving lane.
- Installation on westbound Imola Avenue of a single left turn lane, a single through lane and a right turn lane at the existing signals.
- Provide protected phasing for the eastbound and westbound left-turn movements, as well as right-turn overlap phasing in the westbound ~~and northbound~~ approaches.

The improvement plans must be approved by the City of Napa and Caltrans.

This condition may require the acquisition of off-site real property. The Developer shall enter into a property acquisition agreement with the City (prior to the first of the following occurrences in the North area: approval of the first tentative map, or execution of the first Subdivision Improvement Agreement or Project Improvement Agreement), by which the following requirements will be documented: (1) Developer will make a reasonable good faith effort to acquire the necessary right-of-way at the

Developer's cost within a specified timeframe; (2) if the Developer makes a reasonable good faith effort but is unable to acquire the necessary right-of-way within the specified timeframe, the Developer may request the City to acquire the necessary right-of-way through the exercise of eminent domain; (3) the Developer shall pay all costs incurred by the City to acquire the necessary right-of-way; (4) the Developer shall complete the improvements required by this condition at such time as the City acquires an interest in the necessary right-of-way that will permit the improvements to be made; and (5) if the City does not acquire an interest in the necessary right-of-way that will permit the improvements to be made, the Developer shall be relieved of the obligation to construct the off-site improvements. The developer should begin good faith efforts to identify and acquire any necessary property at its earliest opportunity, so that construction of required improvement is not delayed by this process.

The Developer shall be solely responsible for the cost and the construction and installation of these improvements prior to the issuance of the first building permit for the "North" area or the filing of the first final map, whichever comes first. Alternatively, the Developer may have these improvements included in a Subdivision Improvement Agreement or Project Improvement Agreement (which will include the requirement for improvement security as required per the Napa Municipal Code) which must be executed by the Developer and the City prior to the issuance of the first building permit or filing of the final map for the "North" area, whichever comes first.

Soscol Avenue/SR-121 from Silverado Trail to Magnolia Avenue (Northbound and Southbound)

COA 35. The Developer shall prepare both interim and ultimate ~~the~~ improvement plans for the widening of Soscol Avenue to six through lanes between Magnolia Drive and Silverado Trail. Interim improvement plans shall include medians and additional through lanes ~~pavement signing and striping while staying~~ within ~~the~~ existing ~~public street~~ right-of-way, as well as, intersection improvements identified in COA 25, COA 31, and COA 33. ~~approved by Caltrans and the City of Napa. This corridor improvement is not anticipated to require new right-of-way, but may require a design exception (for narrower than standard lane widths as necessary to stay within the existing right-of-way) for the encroachment permit from Caltrans.~~ Ultimate improvement plans shall include all additional through lanes and required right-of-way. The widened Soscol bridge over Tulocay Creek will be designed and constructed by Caltrans, but the ultimate improvement plans shall be consistent with a widened Soscol bridge over Tulocay Creek.

The Developer shall have prepared a right-of-way exhibit defining the Caltrans, City or otherwise public right-of-way for Soscol Avenue(SR 121) from the north curb return of the intersection of Soscol Avenue and the existing Silverado Trail to the southern curb return of the intersection of Soscol Avenue with Magnolia ~~Avenue~~

Drive. ~~The purpose of~~ This exhibit shall ~~be to determine if there is adequate existing right-of-way to restripe or improve Soscol Avenue to 6 through lanes.~~ include existing and future right-of-way as well as plat and legal descriptions for each property to be acquired. This exhibit must be submitted ~~as a part of a complete Planning Application for a Tentative Map, Use Permit, or Design Review Approval~~ prior to certificate of occupancy for the first project in the "North" area.

~~If the exhibit indicates that additional right-of-way is required, the Developer shall immediately request a design exception from Caltrans to allow for the installation of lanes within the existing right-of-way (that may be below Caltrans standard lane width). If Caltrans does not approve such a design exception prior to the City's approval of a Tentative Map, Use Permit, or Design Review Approval for the first project in the "North" area, the Developer shall enter into a property acquisition agreement with the City (prior to the first of the following occurrences in the North area: approval of the first tentative map, or execution of the first Subdivision Improvement Agreement or Project Improvement Agreement), by which the following requirements will be documented: (1) Developer will make a reasonable good faith effort to acquire the necessary right-of-way at the Developer's cost within a specified timeframe; (2) if the Developer makes a reasonable good faith effort but is unable to acquire the necessary right-of-way within the specified timeframe, the Developer may request the City to acquire the necessary right-of-way through the exercise of eminent domain; (3) the Developer shall pay all costs incurred by the City to acquire the necessary right-of-way; (4) the Developer shall complete the improvements required by this condition at such time as the City acquires an interest in the necessary right-of-way that will permit the improvements to be made; and (5) if the City does not acquire an interest in the necessary right-of-way that will permit the improvements to be made, the Developer shall be relieved of the obligation to construct the off-site improvements. The developer should begin good faith efforts to identify and acquire any necessary property at its earliest opportunity, so that construction of required improvement is not delayed by this process.~~

The improvement plans must be approved by the City of Napa and Caltrans.

The Developer shall be responsible for the cost to design both the interim and ultimate plans and the cost ~~and the~~ to construct~~ion~~ and install~~ation~~ the interim improvements only prior to the issuance of the first building permit for the "North" area or the filing of the first final map, whichever comes first. The Developer's obligation to construct interim improvements is subject to receipt of all regulatory agency approvals and including without limitations Caltrans approval. Alternatively, the Developer may have these improvements included in a Subdivision Improvement Agreement or Project Improvement Agreement (which will include the requirement for improvement security as required per the Napa Municipal Code) which must be executed by the Developer and the City prior to the issuance of the first building permit for the "North" area or filing of the final map, whichever comes first.

Water System Improvements

COA 46. The Developer shall be solely responsible to design and construct the following improvements prior to occupancy of the first building of the North area

a) ~~The existing water main in Sousa Lane from Silverado Trail to Soscol Avenue shall be converted into a Zone 3 pipeline. This will require a new hot tap and connection to the existing 24" water main in Silverado Trail, a new zone break and loop created in Soscol Avenue connecting the two 8" water mains (remaining as Zone 1) to each other, and installing pressure reducers on existing services on Sousa Lane transferred from Zone 1 into Zone 3.~~

Install a twelve-inch water main in Silverado Trail beginning at the end of the existing twelve-inch water main in Silverado Trail (476 Silverado Trail), thence northward to Sousa Lane (250 feet more or less), and terminating as a direct connection to the existing eight-inch main in Sousa Lane (at Silverado Trail) and twenty-four inch main in Sousa Lane and Silverado Trail, thereby converting existing portions of Hydraulic Zone 2 to Hydraulic Zone 3, and all affected services transferred appropriately.

b) The existing 8" water main on Soscol Avenue shall be extended from the current Gasser Office Building to Oil Company Road. This work shall occur after the zone change on Sousa Lane as per COA 46a.

c) The existing 12" water main on Gasser Drive shall be extended and tie-into both the 12" main on Oil Company Road (along the North Drive alignment) and the 8" main on Soscol Avenue. The 12-in water main shall be placed under Tulocay Creek within a steel or fusable C-900 casing that shall extend 10-ft beyond the limits of the future Gasser Drive Bridge over Tulocay Creek as per the approved plans submitted in accordance with COA 4. In the event the Gasser Drive Extension Project is constructed prior to occupancy of the first building of the North area, then the Developer shall be responsible for reimbursing the City (or its designee) prior to occupancy of the first building of the North area for its costs to install these water system improvements within the new Gasser Drive Bridge (if these improvements were actually included in that Project).

FINAL TRAFFIC IMPACT REPORT

GASSER NORTH MASTER PLAN

November 2, 2015

Prepared for: City of Napa, Napa Vista Tulocay, LLC, the Gasser Foundation

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I. INTRODUCTION

This report has been prepared at the request of the City of Napa, the Gasser Foundation, and Napa Vista Tulocay, LLC to determine the circulation impacts resulting from development of the northerly component of the Gasser Master Plan (Gasser North). This report has been prepared to analyze the traffic impacts associated with buildout of Gasser North and the implementation of project component phasing associated with the Major Design Review application submitted for the residential component of Gasser North (Tulocay Village Apartments Homes). The Gasser North project is located on approximately 31 acres in the southeast area of the City of Napa (see **Figure 1, Area Map**). The Gasser North site is bordered by Oil Company Road on the north, auto dealerships fronting Soscol Avenue on the east, Tulocay Creek to the south, and the Napa Wine Train railroad tracks and Napa River to the west. The Tulocay Village Apartment Homes is located on 18.17 net acres within Gasser North.

The Napa City Council certified the Gasser Master Plan EIR on November 12, 2006. The EIR contained a traffic impact analysis, which was based upon 2005 baseline, 2010 buildout and 2020 cumulative condition volumes for off-site roadways and intersections. The EIR traffic analysis assumed that development would be phased, and identified impacts and mitigation measures to address those impacts. The EIR traffic analysis contemplated that if development is proposed in phases that significantly exceed what was anticipated in this analysis, then additional evaluation of the timing for proposed facility improvements may be necessary. In this case, the phasing has been delayed. This report serves as additional evaluation of the impacts related to the Tulocay Village Apartment Homes residential project component, as well as the future buildout of office and commercial components of Gasser North and additional background traffic, within the context of the traffic impacts analyzed for the Gasser Master Plan in the 2006 EIR.

At City direction, analysis has been conducted for the years 2014, 2018 and 2020 horizons. This report is based upon prior studies prepared by Crane Transportation Group: the *Traffic Impact Report for the Gasser North Master Plan Development (7/3/12)* and the *Traffic Impact Report Addendum #1 for the Gasser North Master Plan Development (Tulocay Subdivision and Tulocay Commercial) Year 2020 Cumulative Operating conditions Without Gasser Drive Extended from Kansas Avenue to Soscol Avenue and No Realignment of Silverado Trail at Soscol Avenue (8/20/2012)* and the*Traffic Impact Report for the Tulocay Village Apartment Homes Project, North Gasser Master Plan Residential Component (8/14/14).* Traffic counts conducted by Crane Transportation Group during summer 2014 were used to update the base for the 2014 volumes, and the new counts in conjunction with a traffic study for the Napa Sanitation District (NSD) were used to factor volumes for other intersections in 2020.

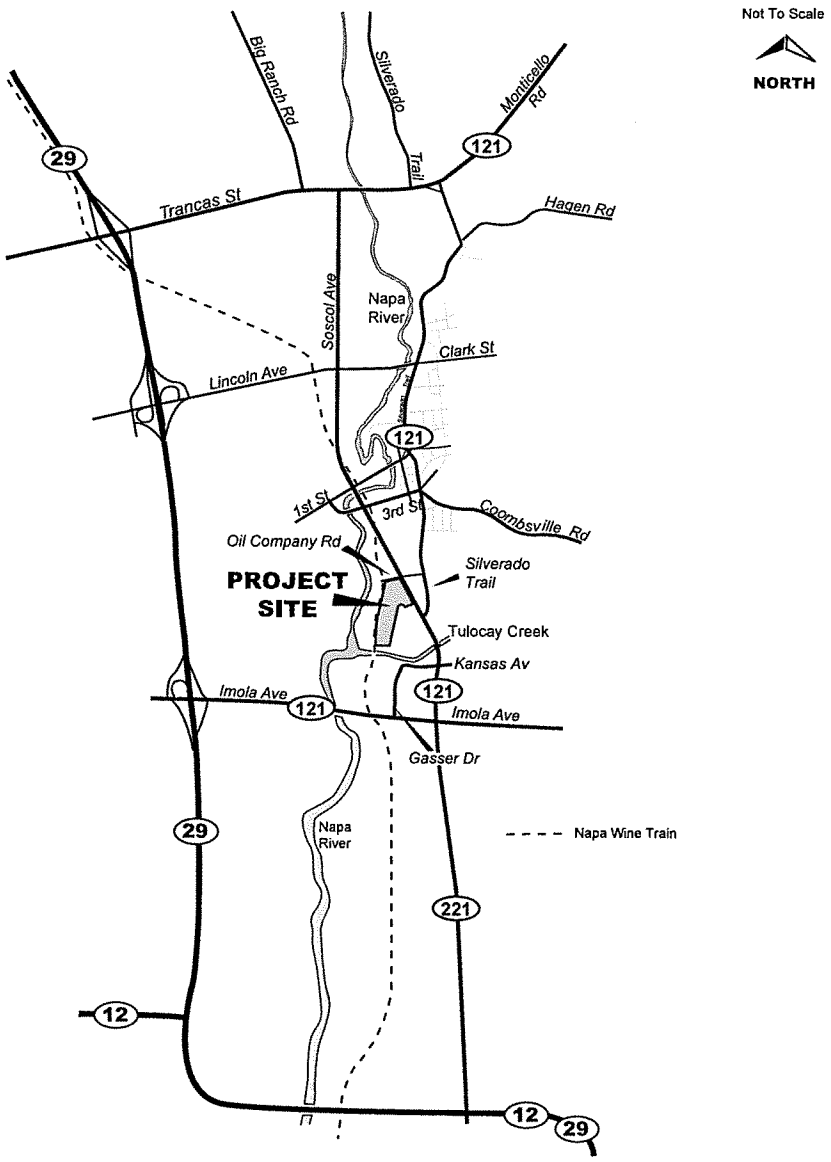
ANALYSIS SCENARIOS, EVALUATION APPROACH AND DATA SOURCES

This report analyzed "without bridge" scenarios consistent with the results of the 2012 Traffic Impact Report Addendum #1 that revised Conditions of Approval (COAs) pertaining to the Gasser Drive Extension and Bridge and the realignment of the Soscol Avenue/Silverado Trail/Gasser Drive intersection. This report uses updated traffic volumes and development

information to verify what mitigation measures would be needed and at what Date/development phase. The "with bridge" scenarios are analyzed to show that at full buildout of Gasser North, the inclusion of a smaller bridge than originally analyzed in the EIR would sufficiently mitigate impacts from the development, and would not result in any new significant impacts.

This report analyzes weekday (Thursday) PM peak hour intersection level of service impacts at six intersections (without bridge) or seven intersections (with bridge) for the following eleven scenarios.

- Year 2014 Without Project
- Year 2014 With 500 Apartments in Gasser North
- Year 2018 Without Project
- Year 2018 With 500 Apartments in Gasser North
- Year 2018 With Buildout of Gasser North – without Gasser Drive Extension and Bridge
- Year 2018 With Buildout of Gasser North – with Gasser Drive Extension and Bridge
- Year 2020 Without Project
- Year 2020 With 500 Apartments in Gasser North
- Year 2020 With 500 Apartments and 72,000 sq. ft. Commercial in Gasser North - without Gasser Drive Extension and Bridge
- Year 2020 With Buildout of Gasser North – without Gasser Drive Extension and Bridge
- Year 2020 With Buildout of Gasser North – with Gasser Drive Extension and Bridge



Gasser North Master Plan Traffic Study

Figure 1
Area Map

CRANE TRANSPORTATION GROUP

At the request of the City of Napa, this report analyzes weekday (Thursday) PM peak hour 2014, 2018 and 2020 operation at the following intersections:

- Soscol Avenue/Oil Company Road-Sousa Lane (stop sign control)
- Soscol Avenue/Project Driveway (signal)
- Soscol Avenue/Gasser Drive (stop sign control)
- Soscol Avenue/Silverado Trail (signal)
- Soscol Avenue/Kansas Avenue (signal)
- Imola Avenue/Soscol Avenue (signal)
- Imola Avenue/Gasser Drive (signal)
- Gasser Drive/Kansas Avenue (signal) [applies to "with bridge" scenarios]

This study analyzes whether the Tulocay Village Apartment Homes Development (500 dwelling units) component of the Gasser North Master Plan Development results in any significant off-site circulation impacts for the 2014 or 2018 planning horizons as compared to the impacts analyzed in the EIR, and whether the entire Gasser North Master Plan Development results in any new or increased significant off-site circulation impacts for the 2018 and 2020 horizons for the roadway network "without" and "with" the extension of Gasser Drive and a new bridge over Tulocay Creek. The "bridge" refers to construction of a two-lane, two-way bridge (i.e., one-lane each direction) over Tulocay Creek at the south end of the Master Plan development as well as the extension of Gasser Drive across the creek. Measures are recommended to mitigate all significant impacts to a less than significant level (i.e., back to "without project" conditions).

YEAR 2014 VOLUME SOURCES

August Thursday PM peak hour volumes represent the City's design day for traffic studies, and have therefore been utilized for evaluation purposes. Thursday PM peak period traffic counts were conducted in February 2013 or June 2014 by Crane Transportation Group at three intersections requested for analysis by City of Napa Public Works staff in the current traffic study. Volumes were then factored to August Thursday 2014 conditions. The new counts were conducted at the following intersections: :

- Soscol Avenue/Imola Avenue
- Imola Avenue/Gasser Drive
- Soscol Avenue/Kansas Avenue

Using the 2014 volume data at the Soscol Avenue/Kansas Avenue intersection, volumes along Soscol Avenue north of Kansas Avenue were factored at the following three intersections::

- Soscol Avenue/Silverado Trail
- Soscol Avenue/Project Driveway
- Soscol Avenue/Oil Company Road – Sousa Lane

YEAR 2018 and YEAR 2020 VOLUME SOURCES

Year 2020 volumes were based upon the 2006 Gasser Master Plan EIR, updated to include full development of the Gasser South Phase 1 and 2 developments and the Napa Pipe (Costco One-

third) Development. They do not, however, include construction of Gasser Drive between Kansas Avenue and Soscol Avenue via a bridge across Tulocay Creek.

The 2006 EIR analyzed traffic impacts from the entire project[1] and established mitigation measures for those impacts. This update examines the impacts of the project with the most current volumes, with and without a new bridge (smaller than the one analyzed in the 2006 EIR) to determine whether the traffic impacts are equal to or less than those analyzed in the 2006 EIR.

Intersections used in this study from an updated (2014 and 2020) volume base were:

- Soscol Avenue/Imola Avenue
- Imola Avenue/Gasser Drive
- Soscol Avenue/Kansas Avenue

Using 2020 volume data at the Soscol Avenue/Kansas Avenue intersection, volumes were then factored at the three Soscol Avenue intersections located north of Kansas Avenue, employing the growth increment occurring at this intersection between 2014 and 2020. These factored intersections are:

- Soscol Avenue/Silverado Trail
- Soscol Avenue/Project Driveway
- Soscol Avenue/Oil Company Road – Sousa Lane

Year 2018 volumes were determined by factoring the growth increment for through volumes at intersections along Soscol and Imola avenues by 66 percent (i.e., by using two-thirds of the growth in traffic volumes occurring between 2014 and 2020). This straight line evaluation is a standard approach used by the traffic engineering profession when evaluating incremental growth, and is acceptable to the City of Napa.

"With Bridge" Conditions

In order to evaluate volumes with a newly constructed bridge across Tulocay Creek and Gasser Drive northward extension into the Master Plan development, volumes were redistributed for 2018 and 2020 conditions. This resulted in Gasser North Master Plan vehicle trips to/from the west on Imola Avenue and to/from the South Napa Marketplace Shopping Center diverting from the Soscol Avenue corridor to the new Gasser Drive Bridge over Tulocay Creek (i.e., the North Drive-Gasser Drive Bridge route). The diversion also included a component of cut-through traffic diverting from southbound Soscol Avenue into and through the Project to the Gasser Drive Extension.

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[1] The project analyzed in 2006 included the extension of Gasser Drive over Tulocay Creek and the construction of a new, larger bridge.

[2] *Trip Generation, An ITE Informational Report*, 8th Edition, 2008.

City of Napa Public Works Department, February 2013, July 2013 and May 2015

DEVELOPMENT SCENARIOS:

A. 500 APARTMENTS (ONLY) – 2014 CONDITIONS

The Tulocay Village Apartment Homes project has been evaluated for year 2014 August Thursday PM peak hour conditions. It would contain the following land uses:

- Apartments (500 units as contemplated in the 2006 Gasser Master Plan EIR)

Primary project access would be provided via a signalized intersection along Soscol Avenue (Project Driveway), located between Oil Company Road and Silverado Trail. Secondary access would be via a widened Oil Company Road at the north end of the site. Access would also be possible via the Gasser Drive (stub) connection at Soscol Avenue, extending to North Drive. The Gasser Drive and Oil Company Road approaches to Soscol Avenue would be limited to right turns in and out only, with stop sign control.

B. DEVELOPMENT SCENARIOS - 2018 AND 2020 CONDITIONS

All 2018 and 2020 development scenarios would have site access as follows:

The primary project access would be provided via a signalized intersection along Soscol Avenue (Project Driveway), located between Oil Company Road and Silverado Trail. Secondary access would be via a realigned Oil Company Road at the north end of the site and via a short segment of Gasser Drive. The Gasser Drive and Oil Company Road approaches to Soscol Avenue would be limited to right turns in and out only, with stop sign control. In addition, at City direction Soscol Avenue has been assumed widened to six lanes south of Silverado Trail, consistent with the 2006 Master Plan EIR.

B-1. 500 APARTMENTS (ONLY) – 2018 AND 2020 CONDITIONS

The Gasser North Master Plan project has been evaluated for year 2018 and year 2020 August Thursday PM peak hour conditions. It would contain the following land uses:

- Tulocay Village Apartment Homes (500 dwelling units)

B-2. 72,000 SQ. FT COMMERCIAL AND 500 APARTMENTS (NO CREEKSIDE COMPONENT) – 2020 CONDITIONS

The Gasser North Master Plan project has been evaluated for year 2020 August Thursday PM peak hour conditions. It would contain the following land uses:

- Gasser North Tulocay Commercial (72,000 square foot) and Tulocay Village Apartment Homes (500 dwelling units)

B-3. 72,000 SQ. FT COMMERCIAL, CREEKSIDE OFFICE AND RETAIL AND 500 APARTMENTS (FULL BUILDOUT) – 2018 AND 2020 CONDITIONS

The Gasser North Master Plan project has been evaluated for year 2018 and 2020 August Thursday PM peak hour conditions. It would contain the following land uses:

- Tulocay Commercial (72,000 square feet) and Creekside Commercial (66,000 square feet of Office and Retail) and Tulocay Village Apartment Homes (500 dwelling units)

II. GASSER NORTH MASTER PLAN PROJECT LOCATION & DESCRIPTION

The Gasser North Master Plan Development project is located on approximately 31 acres in the southeast area of the City of Napa. The site is bordered by Oil Company Road on the north, auto dealerships fronting Soscol Avenue on the east, Tulocay Creek to the south, and the Napa Wine Train railroad tracks and Napa River to the west. The site is currently undeveloped.

III. APPROACH TO ANALYSIS

Development scenarios, analysis locations and horizon years evaluated in this study were determined by City of Napa staff. Their directed analysis approach was as follows.

2006 GASSER MASTER PLAN EIR. The EIR's analysis of transportation impacts focuses on the effects of the Gasser Master Plan (the project) on travel conditions within the study area. The analysis discussed proposed land uses, the transportation and parking demands associated with those land uses, and the roadway system planned to serve the project area. This included Tulocay Commercial (a shopping center), Tulocay Village Apartment Homes (500 apartment units) and Creekside Commercial (offices and retail). The development implications of the project on the local and regional transportation system were analyzed for baseline (year 2006), year 2010, and 2020 horizon year conditions. The local and regional transportation system was evaluated assuming the project would be constructed in two phases, baseline, and full development by 2010, (see EIR Table 4.3-11 for more details). The proposed project mitigation measures contained in this section, assumed that the project would be developed in phases.

YEAR 2014 WITHOUT PROJECT

Year 2014 without project volumes were obtained from available recent count data for three major intersections (Soscol Avenue/Imola Avenue, Soscol Avenue/Kansas Avenue, and Imola Avenue/Gasser Drive), based upon counts conducted by Crane Transportation Group in either February 2013 or June 2014. Using volumes at the Soscol Avenue/Kansas Avenue intersection, available count data was factored to 2014 conditions at the Soscol Avenue intersections with Silverado Trail, Project Driveway, and Oil Company Road- Sousa Lane.

YEAR 2014 WITH 500 APARTMENTS IN GASSER NORTH

Trip generation and distribution projections were derived from the Gasser Master Plan (2006) for 500 Apartments and added to the 2014 without project volumes, with impacts determined. See **Figure 2,** Site Plan.

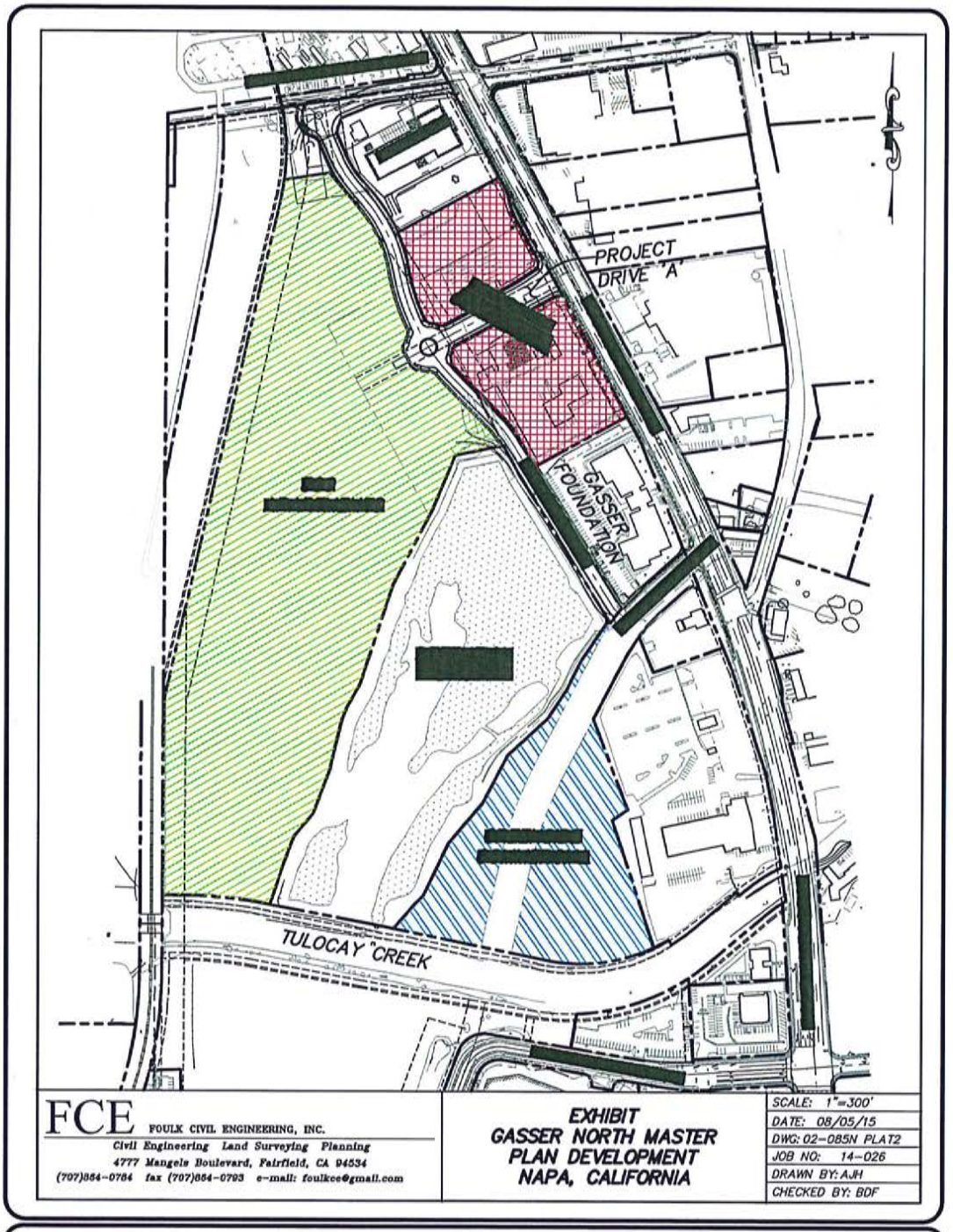

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Figure 2
Site Plan

YEAR 2018 and YEAR 2020 WITHOUT PROJECT

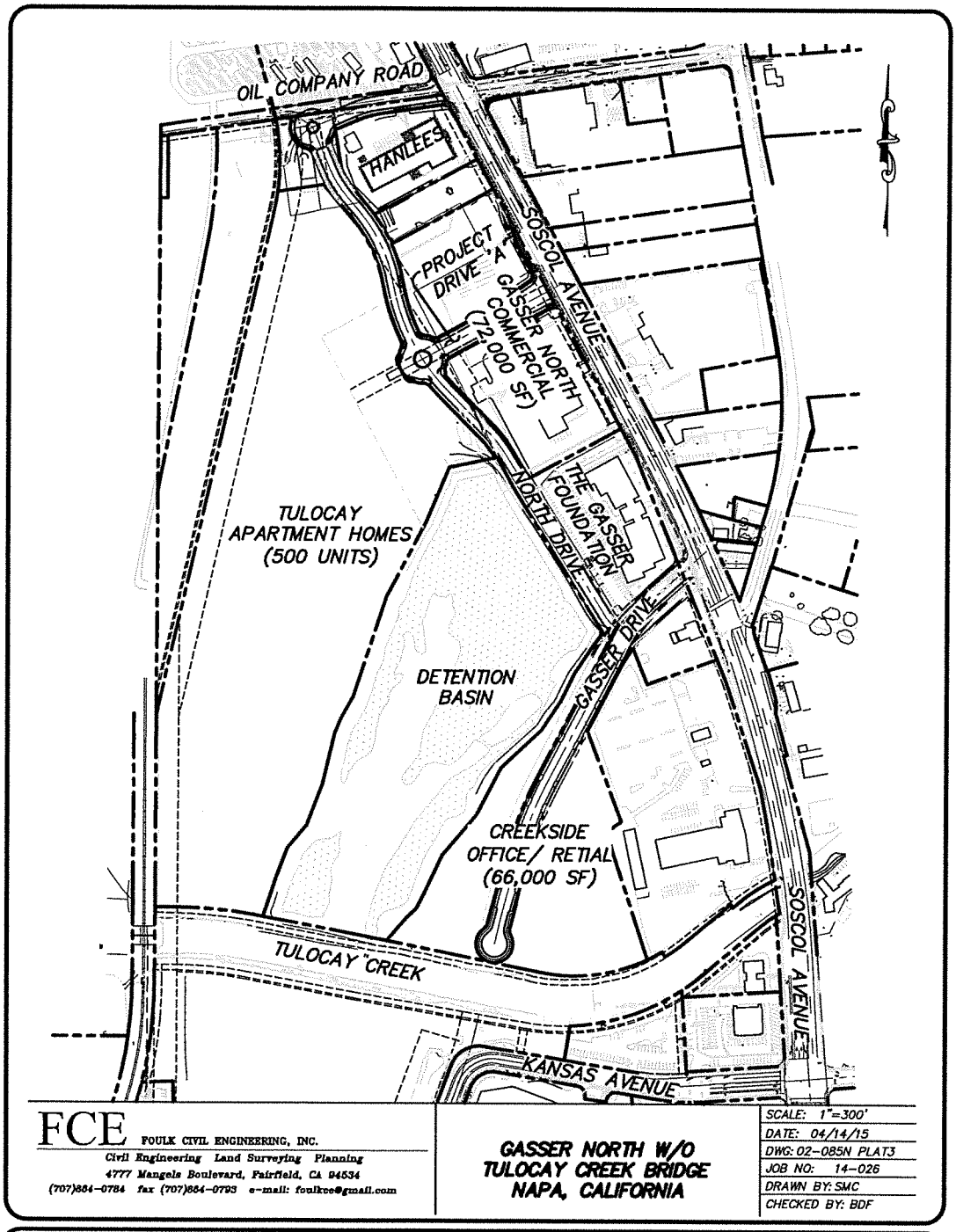
Year 2018 and year 2020 "without project" volumes were obtained from available recent count data (CTG 2013 and 2014) for three major intersections (Soscol Avenue/Imola Avenue, Soscol Avenue/Kansas Avenue, and Imola Avenue/Gasser Drive). Using volumes at the Soscol Avenue/Kansas Avenue intersection, volumes along Soscol Avenue were factored at three study intersections (i.e., Silverado Trail, Project Driveway, and Oil Company Road- Sousa Lane). The "without project" volumes included the full Gasser Master Plan buildout. Thus for the current study, trip generation from the Gasser North Master Plan (including the Tulocay Village Apartment Homes 500-units) was subtracted from the study roadway system to derive year 2020 "without project" volumes. Year 2018 volumes were obtained by factoring the growth increment for through volumes at intersections along Soscol and Imola avenues by 66 percent (i.e., by using two-thirds of the growth in traffic volumes occurring between 2014 and 2020 at major intersections).

YEAR 2018 WITH 500 APARTMENTS IN GASSER NORTH

Project trips from the Tulocay Village Apartment Homes 500 units were added to year 2020 "without project" volumes, with impacts determined.

YEAR 2018 AND YEAR 2020 WITH BUILDOUT OF GASSER NORTH – WITHOUT BRIDGE AND WITH BRIDGE

Project trips from the Gasser North Master Plan (including Tulocay Village Apartment Homes 500 units, Tulocay Commercial (72,000 square foot) and the Creekside Commercial (66,000 square feet of Office and Retail) were added to year 2018 and year 2020 "without project" volumes. Impacts were determined both with and without Gasser Drive extended over a bridge spanning Tulocay Creek. Gasser Drive would intersect Soscol Avenue and connect to North Drive in the Gasser North Master Plan roadway system. See **Figure 3 Site Plan – WITHOUT BRIDGE**, and **Figure 4 Site Plan - WITH BRIDGE.**



CRANE TRANSPORTATION GROUP

Figure 3

Gasser North without Bridge

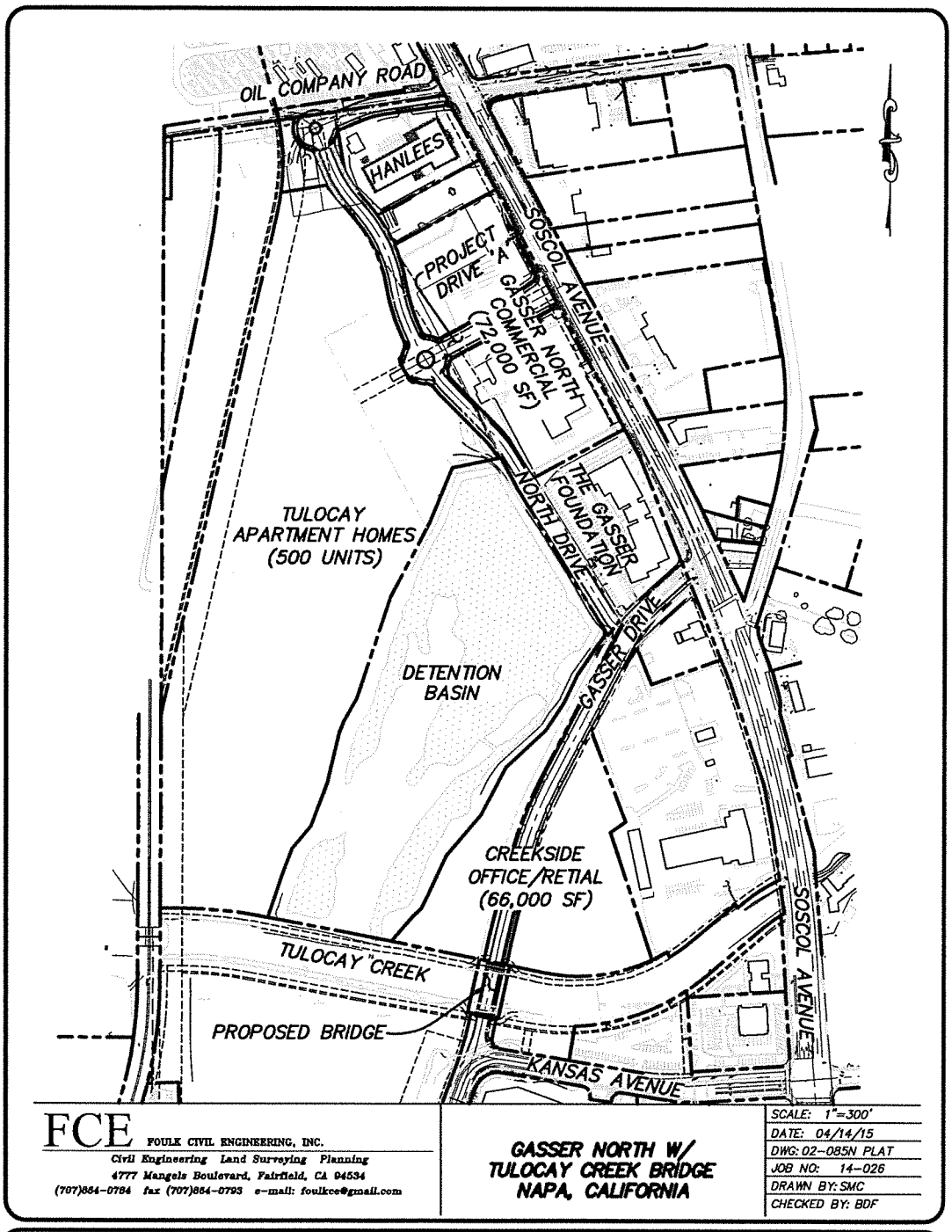


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Figure 4

Gasser North with Bridge

IV. EXISTING CIRCULATION SYSTEM AND INTERSECTION OPERATING CONDITIONS

A. ROADWAYS

The primary roadways expected to experience traffic impacts from project vehicles would be Imola Avenue, Gasser Drive, Kansas Avenue, Soscol Avenue, Silverado Trail and Oil Company Road-Sousa Lane. Each roadway is described below. A diagram of existing intersection approach lanes and control for the study intersections is presented in **Figure 5.**

Imola Avenue is an east-west arterial that extends from westerly of S.R. 29 to easterly of Soscol Avenue. It is designated S.R. 121 between the S.R. 29 freeway and Soscol Avenue. It forms the southern boundary of the Gasser Master Plan and NSD properties, and has four lanes in the project vicinity. West of Gasser Drive, Imola Avenue spans the Napa River. The Imola Avenue/Gasser Drive intersection has recently been improved with 350-foot-long dual left turn lanes provided on the eastbound Imola Avenue approach. The southbound Gasser Drive approach has also been reconfigured to provide two exclusive right turn lanes and an exclusive left turn lane along with a right turn signal overlap with eastbound left turns.

Gasser Drive is a two-lane collector roadway, extending between a signalized intersection with Imola Avenue and a connection with Kansas Avenue west of the Kansas/Soscol Avenue signalized intersection. It provides access to the South Napa Marketplace shopping center on the east side of the street and the Gasser South development on the west side of the street. The Gasser Drive/Hartle Court intersection has recently been signalized and it provides the main access to the Gasser South and NSD parcels. Gasser Drive has been analyzed both without and with a bridge over Tulocay Creek, extending Gasser Drive north, to connect with roadways in the Gasser North Master Plan.

Kansas Avenue is a two-lane collector that extends easterly from Gasser Drive to east of Soscol Avenue. Kansas Avenue widens at Soscol Avenue to provide separate turn lanes. It provides access to the north side of the South Napa Marketplace Shopping Center.

Soscol Avenue is a north-south, four-lane arterial roadway in the project vicinity. It continues northerly to Trancas Street and southerly of the City of Napa to an intersection with State Highway 29. Soscol Avenue is designated S.R.121 between Silverado Trail and Imola Avenue, and S.R. 221 to the south of Imola Avenue. In the project vicinity, Soscol Avenue has signalized intersections with Silverado Trail, Kansas Avenue, Shetler Avenue and Imola Avenue. Left turn lanes and occasional right turn lanes are provided on the approaches to signalized intersections with one exception: no left turn lane is provided on the southbound approach to Silverado Trail.

Silverado Trail is north-south two-lane arterial extending between Soscol Avenue and Trancas Street. It is designated S.R. 121 and is a major truck route through the City.

Oil Company Road - Sousa Lane are two-lane local, low-volume roads that are stop sign controlled on their approaches to Soscol Avenue. The roadway is named Sousa Lane east of

Soscol Avenue and Oil Company Road west of Soscol Avenue. Oil Company Road has an at-grade crossing of Napa Wine Train tracks near its west end.

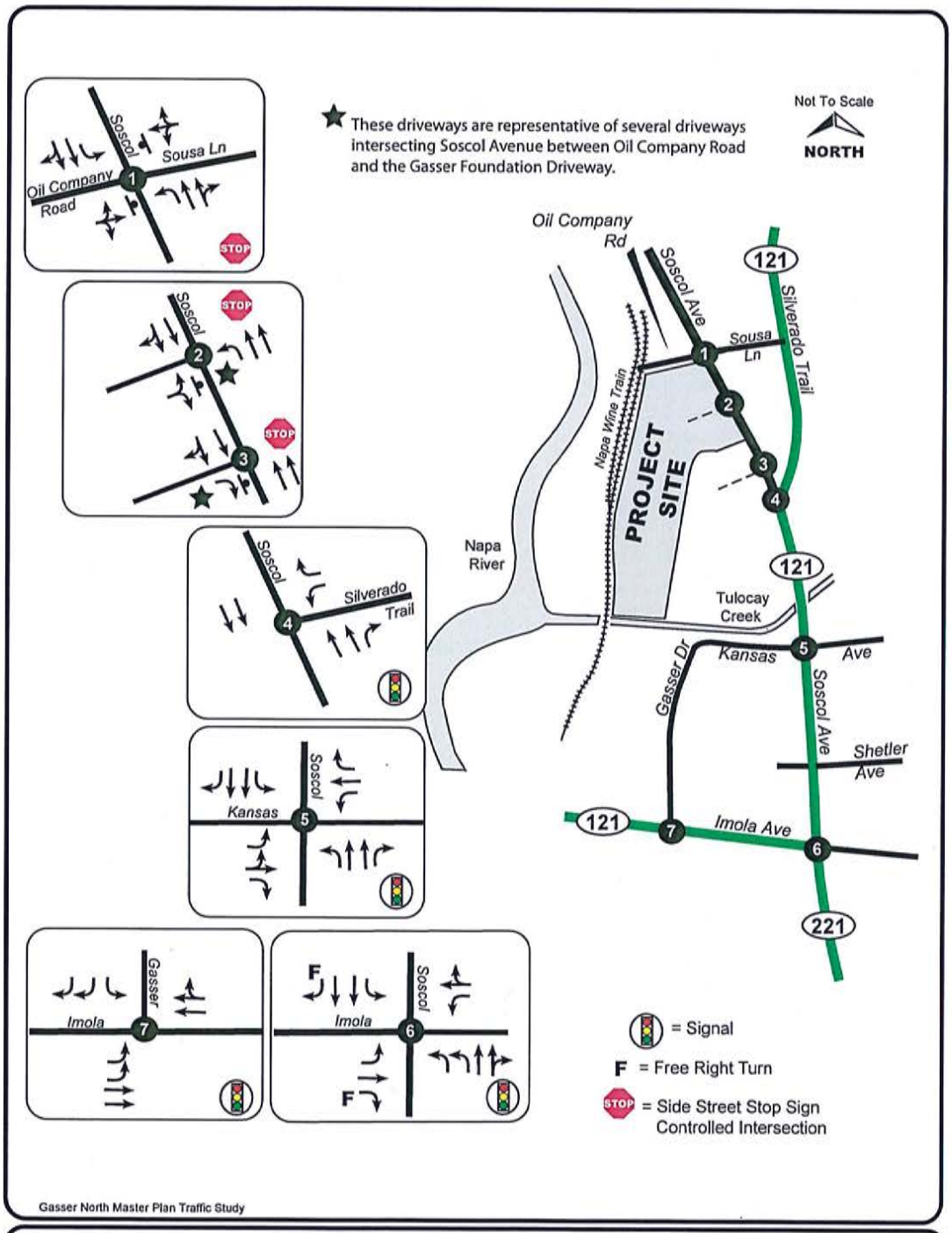

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Figure 5
Year 2014 Lane Geometrics and Intersection Control without Gasser North Master Plan Development

B. INTERSECTION LEVEL OF SERVICE

1. Analysis Methodology

Transportation engineers and planners commonly use a grading system called level of service (LOS) to measure and describe the operational status of the local roadway network. LOS is a description of the quality of a roadway facility's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). Intersections, rather than roadway segments between intersections, are almost always the capacity controlling locations for any circulation system. This analysis methodology is consistent with the City of Napa Guidelines for Traffic Studies and with the analyses conducted for the 2006 Gasser Master Plan EIR.

Signalized Intersections. For signalized intersections, the 2000 *Highway Capacity Manual* (Transportation Research Board, National Research Council) methodology was utilized. With this methodology, operations are defined by the level of service and average control delay per vehicle (measured in seconds) for the entire intersection. For a signalized intersection, control delay is the portion of the total delay attributed to traffic signal operation. This includes delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table 1** summarizes the relationship between delay and LOS for signalized intersections.

Table 1

SIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and/or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	> 80.0

Source: 2000 Highway Capacity Manual (Transportation Research Board).

Unsignalized Intersections. For unsignalized (all-way stop-controlled and side-street stop-controlled) intersections, the 2000 Highway Capacity Manual (Transportation Research Board, National Research Council) methodology for unsignalized intersections was utilized. For side-street stop-controlled intersections, operations are defined by the level of service and average control delay per vehicle (measured in seconds), with delay typically represented for the stop sign controlled approaches or turn movements. For all-way stop-controlled intersections, operations are defined by the average control delay for the entire intersection (measured in seconds per vehicle). The delay at an unsignalized intersection incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. **Table 2** summarizes the relationship between delay and LOS for unsignalized intersections.

Table 2

UNSIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Average Control Delay (Seconds Per Vehicle)
A	Little or no delays	≤ 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded (for an all-way stop), or with approach/turn movement capacity exceeded (for a side street stop controlled intersection)	> 50.0

Source: 2000 Highway Capacity Manual (Transportation Research Board).

The Synchro 8 year 2000 traffic analysis software was used for determining intersection delay and level of service, as approved by City staff. This intersection analysis software is the Citywide analysis tool adopted as part of the Citywide TMP, and the City of Napa's level of service standards are based on Synchro. In addition, at City direction, saturation flow rates for all movements at all intersections were set at 1,800 vehicles per hour per lane. In addition, signal cycle lengths were held to a maximum of 100 seconds. It should be noted, however, that the current cycle length of the Soscol Avenue/Kansas Avenue intersection is 130 seconds.

2. Minimum Acceptable Standards

The City of Napa established mid-range LOS D as the minimum acceptable operation for all signalized intersections in Policy T-2.1 of the General Plan. This translates as an allowable average delay of 45 seconds or less at signalized intersections. However, this policy includes exceptions: mid-range LOS E is the minimum acceptable level of service along state highways, which include the signalized Silverado Trail and Kansas Avenue intersections, and the Imola Avenue/Gasser Drive intersection. Per City of Napa Policy Guidelines for Traffic Impact Analysis, the minimum acceptable level of service for unsignalized intersections is midrange LOS E.

V. YEAR 2014 WITHOUT PROJECT CONDITIONS

A. TRAFFIC VOLUMES

Year 2014 PM peak hour traffic volumes were obtained from 2013 and 2014 counts conducted by Crane Transportation Group at three intersections, and volumes were factored to 2014 conditions at an additional three intersections, as follows.

Volume sources:

1. Intersections used in this study from August Thursday 2014 volume base are:

- Soscol Avenue/Imola Avenue
- Imola Avenue/Gasser Drive
- Soscol Avenue/Kansas Avenue

Volumes were developed as follows: projected year 2014 Thursday PM peak hour traffic volumes with NSD full development were obtained from the August 8, 2013 NSD Traffic Impact Study and adjusted in the following manner at the request of City Public Works staff.

A 30,000-square-foot general office building was assumed developed on the project site and its traffic added to the system.

Year 2013 counts were conducted for the NSD study at the three previously evaluated locations when schools and Napa College were in session. However, no count was conducted at Soscol Avenue/Imola Avenue at that time. Therefore, Thursday, June 19, 2014 PM peak period (4:00-6:00 PM) turn movement counts were conducted at both the Soscol Avenue/Imola Avenue and Imola Avenue/Gasser Drive intersections. While it was realized that the mid June counts would not be totally reflective of local circulation system operation during most of the year since local schools and Napa College were not in session, they did provide an interrelationship between non-school volumes at both locations. This information was then utilized to develop a set of 2014 PM peak hour projections at the Soscol Avenue/Imola Avenue intersection reflective of school traffic conditions with the inclusion of NSD traffic as well as traffic from a 30,000-square-foot general office building on the South Gasser project site.

2. Using August Thursday 2014 volume data at the Soscol Avenue/Kansas Avenue intersection, volumes were factored at the three Soscol Avenue intersections located north of Kansas Avenue using the system of "existing" counts provided in the Gasser North 8/20/12 traffic study as a base. These factored intersections are:

- Soscol Avenue/Silverado Trail
- Soscol Avenue/Project Driveway
- Soscol Avenue/Oil Company Road – Sousa Lane

Resultant year 2014 "without project" PM peak hour traffic volumes are presented in **Figure 6**.

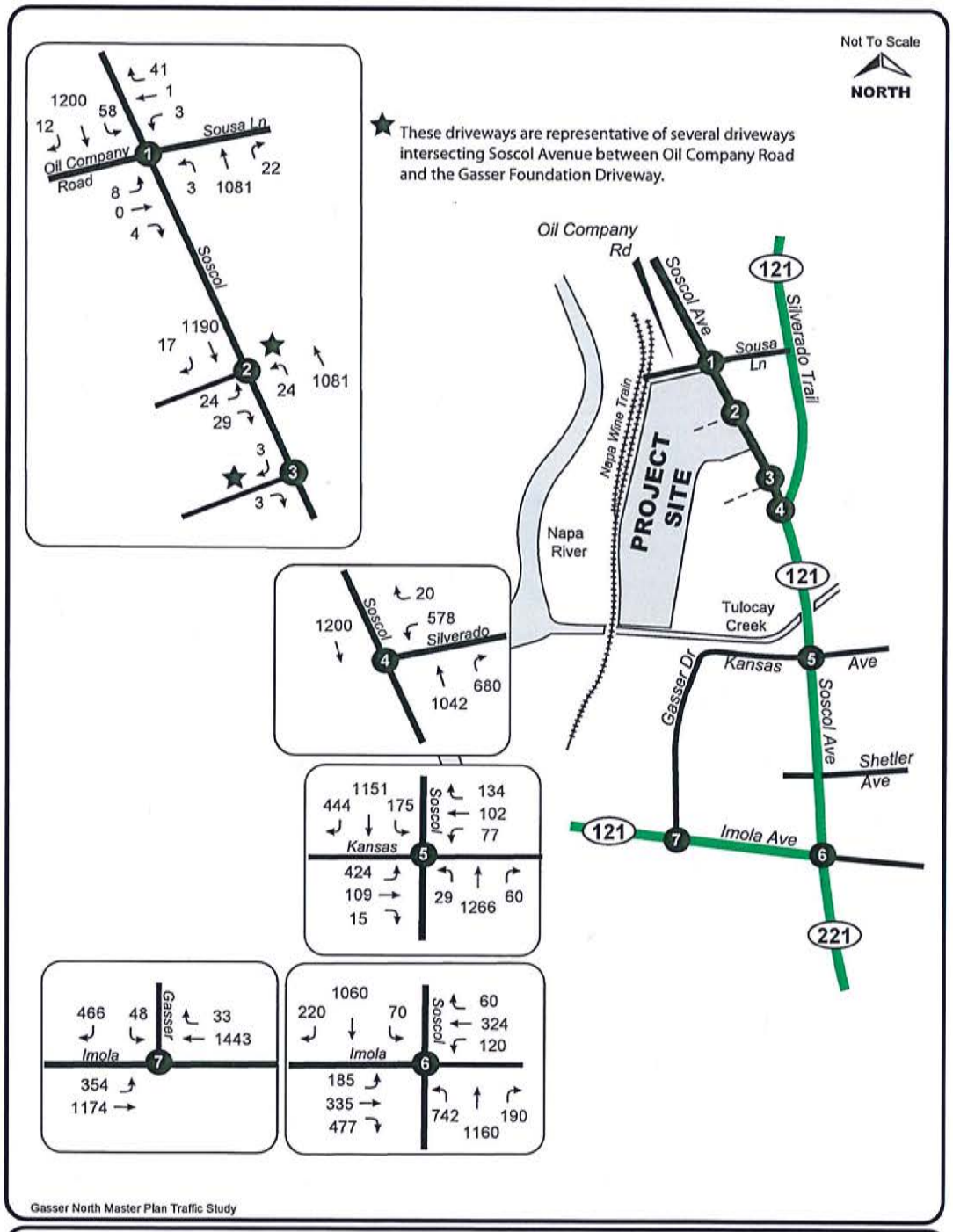

Figure 6
Year 2014 (August Thursday) without Gasser North Master Plan Development PM Peak Hour Volumes

CRANE TRANSPORTATION GROUP

B. PLANNED CIRCULATION SYSTEM IMPROVEMENTS BY 2014

The only improvements listed by City of Napa Public Works staff to be constructed by year 2014 (Saratoga Drive extended to intersect Silverado Trail at a signalized intersection and widening the Kansas Avenue westbound approach to Soscol Avenue to three lanes) are now in operation.

C. INTERSECTION LEVEL OF SERVICE

Table 3 shows that year 2014 "without project" PM peak hour volumes would result in one analysis intersection experiencing unacceptable level of service operation:

- Soscol Avenue/Sousa Lane –Oil Company Road (unsignalized): Operation would be LOS E with 36.3 seconds delay on the eastbound approach, and LOS F with 221.0 seconds delay on the westbound approach.

The *signalized* analysis intersections would be operating at acceptable levels of service during the August Thursday PM peak traffic hour. The Soscol Avenue/Silverado Trail intersection would be operating at LOS B with 20.0 seconds control delay, the Soscol Avenue/Kansas Avenue intersection would be operating at LOS D with 46.7 seconds control delay, the Soscol Avenue/Imola Avenue intersection would be operating at LOS E with 59.3 seconds control delay, and the Imola Avenue/Gasser Drive intersection would be operating at LOS B with 16.3 seconds control delay.

Table 3

INTERSECTION LEVEL OF SERVICE
YEAR 2014

LOCATION	PM PEAK HOUR	
	Without Gasser North	With 500 Apts. in Gasser North
Soscol Avenue /Sousa Lane – Oil Company Road (Unsignalized)	F-221/E-36.3[1]	C-15.9/B-11.6[2]
Soscol Ave. /Project Driveway (Signal)	NA [3]	B-15.9 [4]
Soscol Avenue /Gasser Drive (unsignalized)	NA [3]	A-9.9
Soscol Avenue (S.R. 121)/Silverado Trail (Signal)	B-20.0 [4]	C-26.3 [4]
Soscol Avenue (S.R. 121)/Kansas Ave. (Signal)	D-46.7 [4]	D-52.2 [4]
Soscol Avenue (S.R. 121)/Imola Ave. (Signal)	E-59.3 [4]	E-64.6 [4]
Imola Avenue (S.R. 121)/Gasser Drive (Signal)	B-16.3 [4]	B-17.1 [4]

(1) Unsignalized level of service – average vehicle delay in seconds. Eastbound Oil Company Road stop sign controlled approach/Westbound Sousa Lane stop sign controlled approach. Eastbound and Westbound remain

as today, with all turns allowed.

(2) Unsignalized level of service – average vehicle delay in seconds. Eastbound Oil Company Road stop sign controlled approach/Westbound Sousa Lane stop sign controlled approach. Eastbound and Westbound approaches would be restricted to right turn in, right turn out with project volumes.

(3) This intersection will be constructed as part of development on Gasser North.

(4) Signalized level of service – average vehicle control delay in seconds.

Maximum 90 second cycle length at all signalized intersections except Soscol Ave./Imola Ave., where 100 second cycle length is employed.

Year 2000 Highway Capacity Manual Analysis Methodology – Synchro software.
Source: Crane Transportation Group

D. VEHICLE QUEUING – IMOLA AVENUE/GASSER DRIVE INTERSECTION

Table 4 shows that the Imola Avenue/Gasser Drive intersection would experience acceptable August Thursday PM peak hour 95th percentile vehicle queues in the left turn lanes on the eastbound Imola Avenue intersection approach as well as in the through lanes on the westbound Imola Avenue intersection approach with 2014 volumes. During the PM peak hour, the eastbound left turn lanes would have a 150-foot queue demand/lane with 275 feet of storage/lane, while the westbound through lanes would have a 425-foot queue demand/lane with 475 feet of storage/lane.

Table 4

95TH PERCENTILE VEHICLE QUEUES (1) IMOLA AVENUE/GASSER DRIVE INTERSECTION YEAR 2014 CONDITIONS

STREET	APPROACH	# LANES	STORAGE (FEET/LANE)	STORAGE DEMAND IN FEET PER LANE WITHOUT GASSER NORTH	STORAGE DEMAND IN FEET PER LANE WITH 500 APTS IN GASSER NORTH
Imola Ave.	EB left turn	2 Lanes	275	150	150
	WB thru lanes	2 lanes	475	425	425
Gasser Dr.	SB right turn	2 lanes	750	150	175
	SB left turn	1 lane	125	75	75

(1) Results are rounded upward to the next 25-foot increment. Storage is per lane at 95% capacity.

Year 2000 Highway Capacity Manual Analysis Methodology; Synchro 8 software program.
Source: Crane Transportation Group

VI. YEAR 2018 AND YEAR 2020 WITHOUT PROJECT CONDITIONS

A. TRAFFIC VOLUMES

Year 2018 and Year 2020 August Thursday PM peak hour volumes were developed using the following methodology.

1. Year 2020 PM peak hour traffic projections from the Gasser Master Plan EIR circulation analysis were obtained and used as a base for adjustment. Gasser Master Plan land uses evaluated in the EIR are presented in **Table 5**.

Table 5

GASSER MASTER PLAN
PROPOSED LAND USE AT BUILDOUT

PROPOSED LAND USE	SIZE
Gasser North Development Parcels	
Office/commercial, general/ multiple buildings	40,000 SQ.FT.
General office, single, multistory building	26,000 SQ.FT.
Tulocay Village Apartment Homes	500 units
Retail/commercial	80,000 SQ.FT.
Gasser South Development Parcels	
Office	30,000 SQ.FT.
Theater	45,000 SQ.FT. 14 screens, 2,500 seats
General retail	15,000 SQ.FT.
High quality, sit-down restaurant	7,000 SQ.FT.
Transitional housing	60 beds
Transitional housing	24 units
General light industrial	14,000 SQ.FT.

Source: Gasser Master Plan EIR (2006)

2. Trip generation projections for all land uses in the Gasser North section of the Master Plan were updated to reflect the most current trip rates from the Institute of Transportation Engineers.[2] Adjustments to reflect internal trips as well as passby capture were then applied in a manner consistent with the Gasser North 8/20/12 trip generation projections.
3. Traffic from full development of the proposed Napa Pipe project (Costco One-Third Alternative) was added to Soscol and Imola avenues.

[2] *Trip Generation, An ITE Informational Report*, 8th Edition, 2008.

4. Traffic volumes from the Gasser North Master Plan project were subtracted from the 2020 system to provide 2020 "without project" conditions.
5. Year 2018 volumes were determined by factoring the growth increment for through volumes at intersections along Soscol and Imola avenues by 66 percent (i.e., by using two-thirds of the growth in traffic volumes occurring between 2014 and 2020).

Year 2018 and 2020 lane geometrics and control are shown in **Figure 7.**

Resultant year 2018 and year 2020 "without project" weekday PM peak hour volumes at analysis intersections are presented in **Figures 8 and 9**.

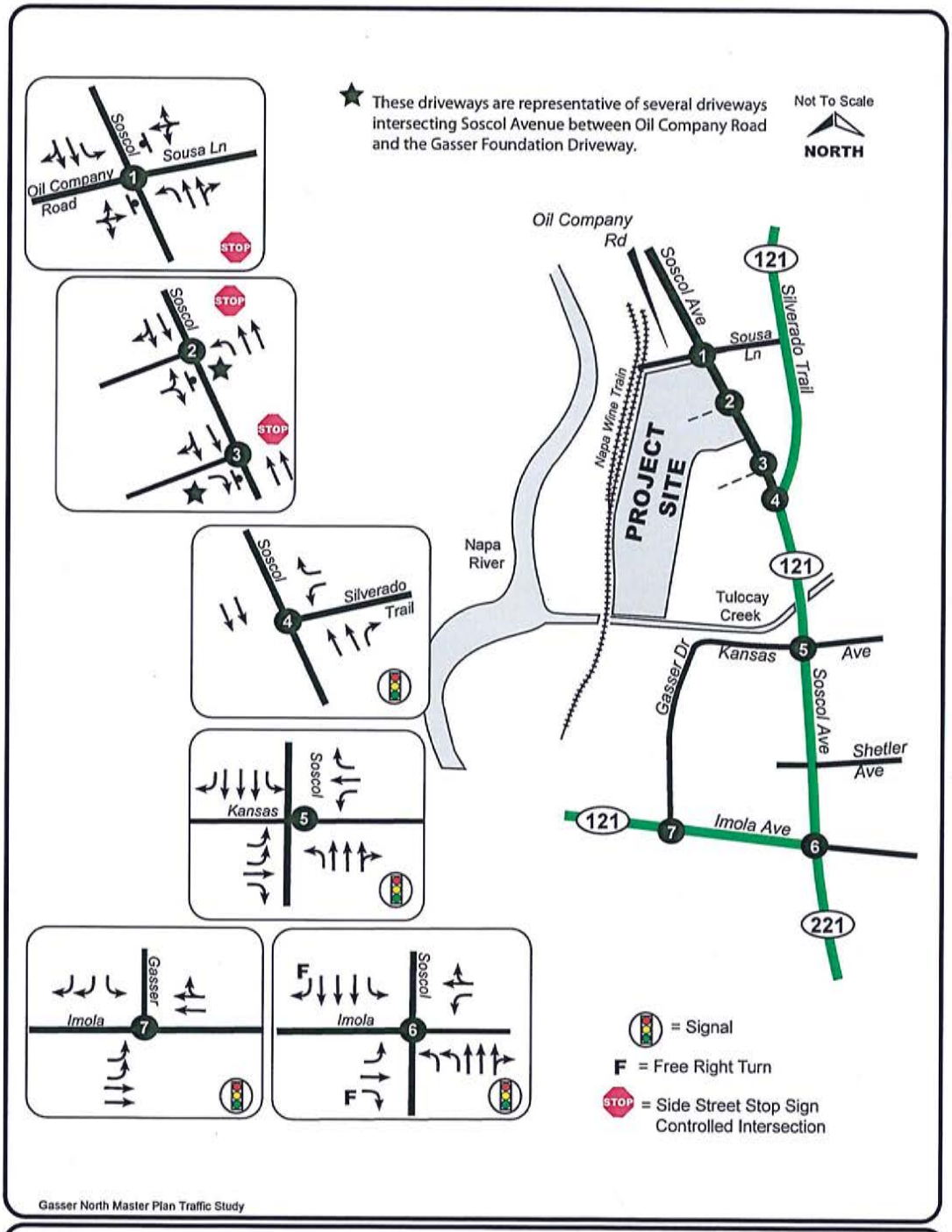

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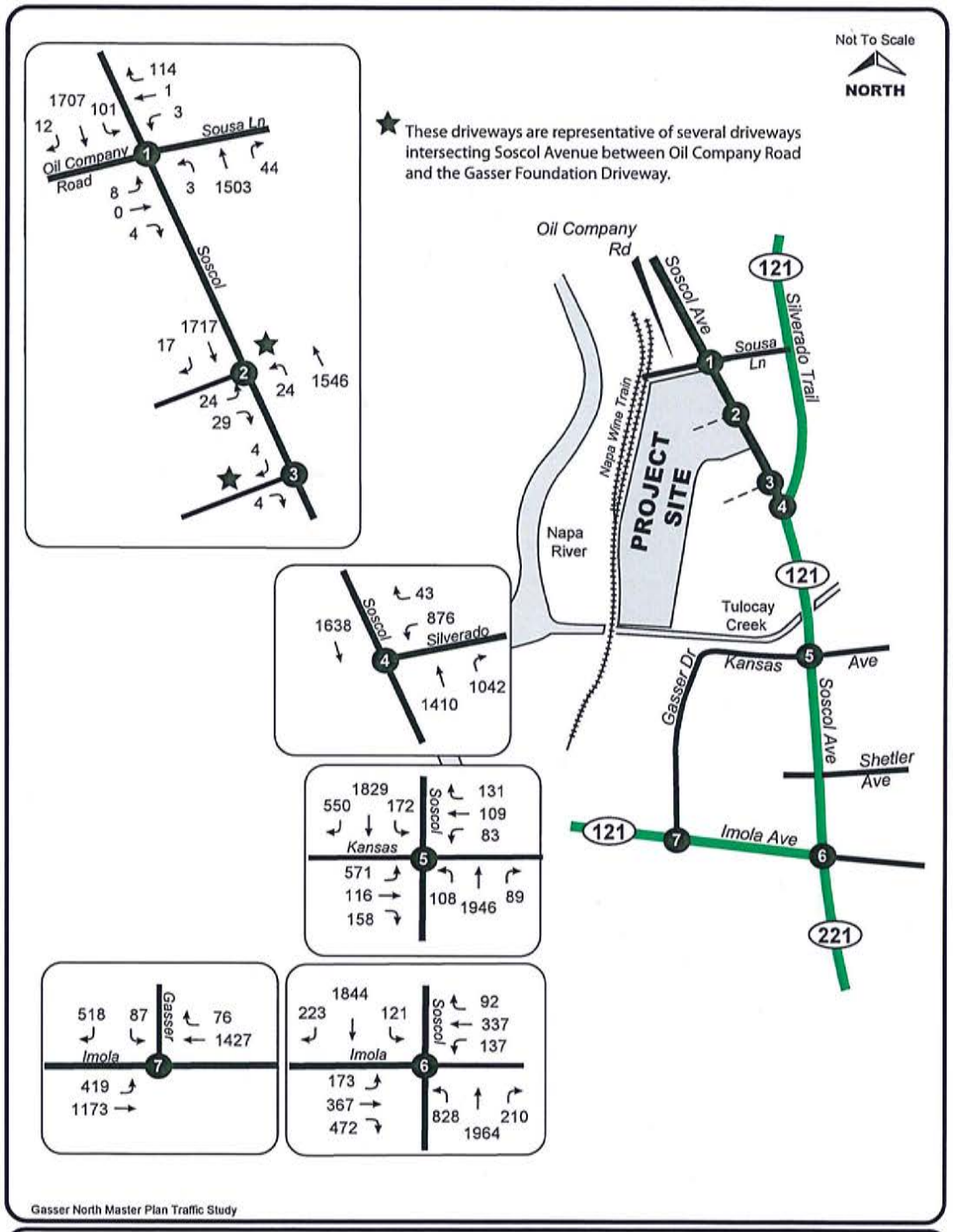
Figure 7
Year 2018 and 2020 Lane Geometrics and Intersection Control without Gasser North Master Plan Development



Gasser North Master Plan Traffic Study

Figure 8
Year 2018 (August Thursday) without Gasser North Master Plan Development PM Peak Hour Volumes

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B. PLANNED CIRCULATION SYSTEM IMPROVEMENTS

The following improvements are currently planned for 2018 and 2020[3]:

- The Kansas Avenue eastbound approach to the signalized Soscol Avenue intersection will be widened. The eastbound approach will have four lanes (two left turn lanes, one through lane and one right turn lane). The westbound approach was recently widened to three lanes (one left turn lane, one through lane and one right turn lane).

- Soscol Avenue will be widened to provide six through lanes from the Silverado Trail intersection the Magnolia Drive intersection.

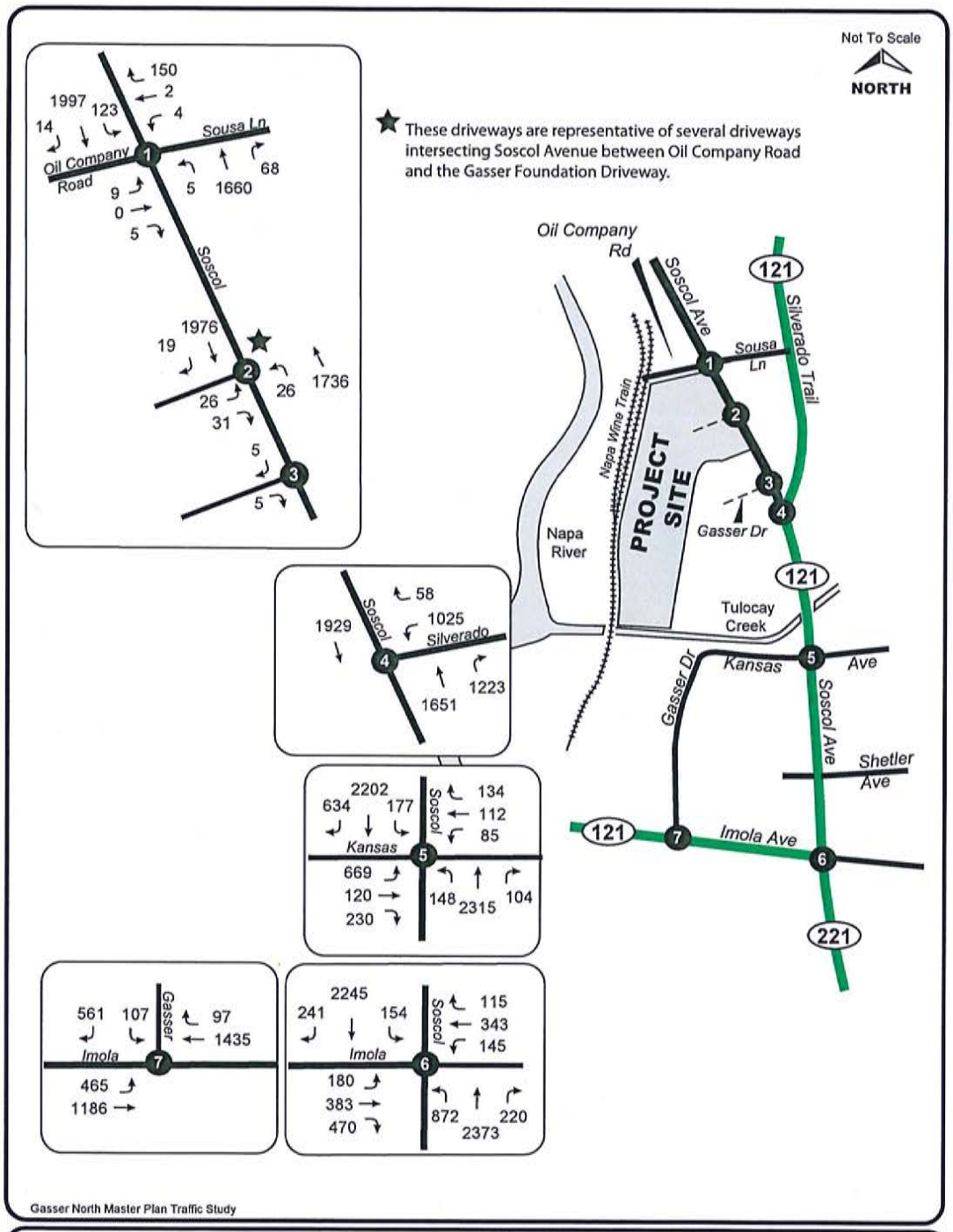
C. INTERSECTION LEVEL OF SERVICE – WITHOUT GASSER NORTH DEVELOPMENT

Table 6 shows that with year 2018 "without project" PM peak hour volumes, two of the analysis intersections would be experiencing unacceptable operation:

- Soscol Avenue/Oil Company Road-Sousa Lane (unsignalized): Operation would be LOS F with extreme control delay on the eastbound approach and LOS F with 237 seconds control delay on the westbound approach.
- Soscol Avenue/Imola Avenue (signalized): Operation would be LOS F with 91.3 seconds control delay.

Three of the analysis intersections would be experiencing acceptable operation with year 2018 "without project" PM peak hour volumes. The Imola Avenue/Gasser Drive intersection would operate at LOS B with 17.8 seconds control delay, the Soscol Avenue/Kansas Avenue intersection would operate at LOS D with 45.4 seconds control delay and the Soscol Avenue/Silverado Trail intersection would operate at LOS D with 45.1 seconds control delay.

[3] City of Napa Public Works Department, February 2013, July 2013 and May 2015.



Gasser North Master Plan Traffic Study

Figure 9
Year 2020 (August Thursday) without Gasser North Master Plan Development PM Peak Hour Volumes

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Table 6

INTERSECTION LEVEL OF SERVICE
YEAR 2018

LOCATION	PM PEAK HOUR			
	Without Gasser North	With 500 Apts. in Gasser North	With Buildout Gasser North (w/o bridge)	With Buildout Gasser North (with bridge)
Soscol Avenue /Sousa Lane – Oil Company Road (Unsignalized)	F*/F-237 (1)	C-20.5/B-11.6 (2)	C-21.8/B-13.1 (2)	C-22.1/C-15.4 (2)
Soscol Ave. /Project Driveway (Signal)	NA (3)	B-19.1 (4)	C-31.4 (4)	C-23.2 (4)
Soscol Avenue /Gasser Drive (unsignalized)	NA (3)	B-12.2	B-12.7	B-11.6
Soscol Avenue (S.R. 121)/Silverado Trail (Signal)	D-45.1 (4)	D-50.5 (4)	E-60.8 (4)	D-45.4 (4)
Soscol Avenue (S.R. 121)/Kansas Ave. (Signal)	D-45.4 (4)	D-48.5 (4)	D-51.9 (4)	D-47.2 (4)
Soscol Avenue (S.R. 121)/Imola Ave. (Signal)	F-91.3 (4)	F-94.6 (4)	F-101.3 (4)	F-96.4 (4)
Kansas Ave./Gasser Drive (Signal)	NA(5)	NA (5)	NA (5)	C-30.1 (4)
Imola Avenue (S.R. 121)/Gasser Drive (Signal)	B-17.8 (4)	B-19.4 (4)	C-21.3 (4)	C-23.1 (4)

F* = No delay values are provided by the software, indicating extreme delay.

(1) Unsignalized level of service – average vehicle delay in seconds. Eastbound Oil Company Road stop sign controlled approach/Westbound Sousa Lane stop sign controlled approach. Eastbound and Westbound remain as today, with all turns allowed.
(2) Eastbound and westbound are changed to right turn in and right turn out, only, with any development in Gasser North.
(3) This intersection will be constructed as part of development on Gasser North.
(4) Signalized level of service – average vehicle control delay in seconds.
(5) This signalized intersection does not exist without the bridge.

Maximum 90 second cycle length at all signalized intersections except Soscol Ave./Imola Ave., where 100 second cycle length is employed.

Year 2000 Highway Capacity Manual Analysis Methodology – Synchro software.
Source: Crane Transportation Group

Table 7 shows that with year 2020 "without project" PM peak hour volumes, the following analysis intersections would be experiencing unacceptable operation:

- Soscol Avenue/Oil Company Road-Sousa Lane (unsignalized): Operation would be LOS F with extreme control delay on the eastbound and westbound approaches.
- Soscol Avenue/Silverado Trail (signalized): Operation would be LOS F with 94.2 seconds control delay.
- Soscol Avenue/Kansas Avenue (signalized): Operation would be LOS E-73.3 seconds control delay, beyond the acceptable mid-range (LOS E – 67.5).
- Soscol Avenue/Imola Avenue (signalized): Operation would be LOS F with 143.9 seconds control delay.

One of the analysis intersections would be experiencing acceptable operation with year 2020 "without project" PM peak hour volumes
The Imola Avenue/Gasser Drive intersection would be operating at an acceptable LOS C-20.0.

Table 7

INTERSECTION LEVEL OF SERVICE
YEAR 2020

LOCATION	PM PEAK HOUR				
	Without Gasser North	With 500 Apt Units, only, in Gasser North (w/o bridge)	With 500 Apt Units plus 72,000 sq ft Commercial in Gasser North (w/o bridge)	With Buildout Gasser North (w/o bridge)	With Buildout Gasser North (with bridge)
Soscol Avenue (S.R. 121)/Sousa Lane – Oil Company Road (Unsignalized)	F*/F* (1)	C-24.9/ B-11.9(2)	D-26.5/ B-11.8 (2)	D-27.0/B-11.9(2)	D-27.0/C-17.3 (2)
Soscol Ave. /Project Driveway (Signal)	NA (3)	D-50.7(4)	D-52.0(4)	D-53.7 (4)	D-41.6 (4)
Soscol Ave/Gasser Drive(unsignalized)	NA (3)	B-12.1	B-12.0	B-12.8	B-12.0
Soscol Avenue (S.R. 121)/Silverado Trail (Signal)	F-94.2 (4)	F-92.9(4)	F-95.9(4)	F-98.5(4)	F-96.4 (4)
Soscol Avenue (S.R. 121)/Kansas Ave. (Signal)	E-73.3 (4)	F-82.3(4)	F-87.9(4)	F-91.7 (4)	E-72.3 (4)
Soscol Avenue (S.R. 121)/Imola Ave. (Signal)	F-143.9 (4)	F-148.0(4)	F-153.1(4)	F-155.1 (4)	F-151.8 (4)
Kansas Ave./Gasser Drive (Signal)	NA (5)	NA(5)	NA(5)	NA(5)	D-40.1 (4)
Imola Avenue (S.R. 121)/Gasser Drive (Signal)	C-20.0 (4)	C-23.0(4)	C-25.0(4)	C-26.0(4)	C-25.2(4)

F* = No delay values are provided by the software, indicating extreme delay.

(1) Unsignalized level of service – average vehicle delay in seconds. Eastbound Oil Company Road stop sign controlled approach/Westbound Sousa Lane stop sign controlled approach. Eastbound and Westbound remain as today, with all turns allowed.
(2) Eastbound and westbound are changed to right turn in and out, only, with any development in Gasser North.
(3) This intersection will be constructed as part of development on Gasser North.
(4) Signalized level of service – average vehicle control delay in seconds.
(5) This signalized intersection does not exist without the bridge.

Maximum 90 second cycle length at all signalized intersections except Soscol Ave./Imola Ave., where 100 second cycle length is employed.

Year 2000 Highway Capacity Manual Analysis Methodology – Synchro software.
Source: Crane Transportation Group

D. VEHICLE QUEUING – IMOLA AVENUE/GASSER DRIVE INTERSECTION – WITHOUT THE GASSER NORTH DEVELOPMENT PROJECT

Tables 8 and **9** show that year 2018 and year 2020 without project 95th percentile vehicle queues in the dual left turn lanes on the eastbound Imola Avenue approach to Gasser Drive or in the two through lanes on the westbound Imola Avenue intersection approach would be accommodated within available storage lengths.

Table 8

95TH PERCENTILE VEHICLE QUEUES [1] IMOLA AVENUE/GASSER DRIVE INTERSECTION YEAR 2018 CONDITIONS

STREET	APPROACH	# LANES	STORAGE	YEAR 2018 QUEUE/LANE WITHOUT GASSER NORTH	YEAR 2018 QUEUE/LANE WITH 500 APTS IN GASSER NORTH	YEAR 2018 QUEUE/LANE WITH BUILDOUT GASSER NORTH (W/O BRIDGE)	YEAR 2018 QUEUE/LANE WITH BUILDOUT GASSER NORTH WITH BRIDGE
Imola Ave.	EB left turn	2 Lanes	275'/lane	200	225	225	275
	WB thru lanes	2 lanes	475'	400	425	425	400
Gasser Dr.	SB right turn	2 lanes	750'	175	200	200	250
	SB left turn	1 lane	125'	100	100	100	100

[1] Results are rounded upward to the next 25-foot increment. Storage is per lane at 95% capacity.

Results optimized to facilitate queue storage limits.

Year 2000 Highway Capacity Manual Analysis Methodology; Synchro 8 software program.
Source: Crane Transportation Group

Table 9

95TH PERCENTILE VEHICLE QUEUES [1]
IMOLA AVENUE/GASSER DRIVE INTERSECTION
YEAR 2020 CONDITIONS

STREET	APPROACH	# LANES	STORAGE (IN FEET/ LANE)	YEAR 2020 QUEUE/ LANE (FEET PER LANE WITHOUT GASSER NORTH	STORAGE DEMAND IN FEET PER LANE WITH 500 APT UNITS, ONLY. IN GASSER NORTH (W/O BRIDGE)	STORAGE DEMAND IN FEET PER LANE WITH 500 APT UNITS PLUS 72 K COMMERCIAL IN GASSER NORTH (W/O BRIDGE)	YEAR 2020 QUEUE/LANE WITH BUILDOUT GASSER NORTH (W/O BRIDGE)	YEAR 2020 QUEUE/LANE WITH BUILDOUT GASSER NORTH WITH BRIDGE
Imola Ave.	EB left turn	2 Lanes	275'	225	250	250	250	275
	WB thru lanes	2 lanes	475'	400	400	475	425	400
Gasser Dr.	SB right turn	2 lanes	750'	200	200	200	225	250
	SB left turn	1 lane	125'	125	125	125	125	125

[1] Results are rounded upward to the next 25-foot increment. Storage is per lane at 95% capacity.

Results optimized to facilitate queue storage limits.

Year 2000 Highway Capacity Manual Analysis Methodology; Synchro 8 software program.
Source: Crane Transportation Group

VI. PROJECT IMPACTS

A. IMPACT SIGNIFICANCE CRITERIA

The City of Napa provides Guidelines for Determination of Significant Impacts in its *Policy Guidelines: Traffic Impact Analysis2005-5-12).* Criteria applicable to the project are as follows and are consistent with those presented in the 2006 Master Plan EIR.

1.a. When a **signalized intersection** operates at midrange LOS D or better under existing or interim baseline conditions, the addition of project trips degrades the intersection operations to poorer than midrange LOS D, LOS E or LOS F. The project mitigation should bring the facility to operate at midrange LOS D, at a minimum.

2 c. When a **signalized state highway or CBD intersection** operates at poorer than midrange 'LOS E' or at LOS 'F' (a violation of the General Plan LOS policy) under existing or interim baseline conditions, the addition of more than 50 peak hour project trips contributes to the continuing operational failure at the intersection. The project mitigation should bring the facility to pre-project conditions.

2.d. At an **unsignalized intersection** when the minor stop-sign controlled approach operates at LOS 'E' or better has acceptable operation in terms of total control delay, the addition of project trips increases the total control delay to more than 4.0 vehicle-hours for a single lane approach or 5.0 vehicle hours for a multi-lane approach. The project mitigation should bring the facility to operate at LOS E or to bring total control delay to less than 4.0 vehicle-hours for a single lane approach or 5.0 vehicle-hours for a multilane approach, at a minimum.

2.e. At an **unsignalized intersection** when the minor stop-sign controlled approach operates at LOS 'F' <u>and</u> does not have acceptable operation in terms of total control delay, the addition of more than 50 peak hour project trips contributes to the continuing operational failure at the minor approach. The project mitigation should bring the facility to pre-project conditions.

In addition, the following impact criterion has been employed in this analysis.

- A project impact is considered significant if project traffic would increase acceptable "without project" 95th percentile vehicle queuing on the approaches to signalized intersections selected for evaluation to unacceptable levels (i.e., exceeding the storage lane capacity), or add any traffic to existing unacceptable levels.

B. TRIP GENERATION

The Gasser North Master Plan trip generation is shown in **Table 10**. Trip rates utilized have come from the traffic engineering profession's standard source of trip rate data, "*Trip Generation Manual*, 9th Edition, by the Institute of Transportation Engineers (ITE) 2012. Passby capture and internal capture have been taken into account for the shopping center.

Table 10

PROJECT TRIP GENERATION
GASSER NORTH

DEVEL-OPMENT	USE	SIZE	PM PEAK HOUR TRIPS			
			INBOUND		OUTBOUND	
			RATE	VOL	RATE	VOL
Gasser North	Apartments	500	.403	**201**	.217	**109**
	Shopping Center – gross trips	72,000 SF	**	231	**	250
	- trips eliminated due to existing shopping center site traffic (RV sales and towing)			-4		-5
	- passby capture from Soscol Avenue and internal capture from Project Residential			-68		-68
	Net New Shopping Center Trips			**159**		**177**
	Creekside E (Retail)	40,000 SF	1.19	**48**	1.52	**61**
	Creekside W (Office)	26,000 SF	.25	**7**	1.24	**32**
TOTAL				**415**		**379**

Volumes shown in bold typeface are included in the total.
** Ln(T) = .67Ln(X) + 3.31 (48% in/52% out)

Ln = Natural Log
X = Size in 1,000 square feet
T = Trips

Trip Rate Source: Trip Generation Manual, 9th Edition, by the Institute of Transportation Engineers, 2012.
Compiled by: Crane Transportation Group

C. TRIP DISTRIBUTION

Project traffic was distributed to the local roadway network based upon guidance from the 2006Gasser Master Plan EIR Circulation Analysis and traffic modeling – see **Table 11**.

Table 11

PROJECT TRIP DISTRIBUTION

LOCATION	RESIDENTIAL	
	INBOUND	OUTBOND
To/From the North on Soscol Avenue	30%	21%
To/From the East on Sousa Lane and Silverado Trail	12%	12%
To/From the West on Imola Avenue West of Gasser Drive	38%	40%
To/From the East of Soscol Avenue on Kansas Avenue/Shetler Avenue/Imola Avenue	3%	3%
To/From the South on Soscol Avenue South of Imola Avenue	10%	9%
To/From the South Napa Marketplace	7%	15%
TOTAL	**100%**	**100%**

Source: Gasser Master Plan Traffic Model, 2006 with local area adjustments

D. YEAR 2014 WITH 500 APARTMENTS, ONLY, IN THE GASSER NORTH MASTER PLAN DEVELOPMENT – WITHOUT GASSER DRIVE EXTENSION AND BRIDGE TRAFFIC IMPACTS (see Figures 10 and 11)

1. Level of Service

Table 3 shows that year 2014 "without project" PM peak hour volumes would result in one analysis intersection experiencing unacceptable level of service operation:

- Soscol Avenue/Sousa Lane –Oil Company Road (unsignalized): Operation would be LOS E with 36.3 seconds delay on the eastbound approach, and LOS F with 221.0 seconds delay on the westbound approach.

The *signalized* analysis intersections would be operating at acceptable levels of service during the August Thursday PM peak traffic hour. The Soscol Avenue/Silverado Trail intersection would be operating at LOS B with 20.0 seconds control delay, the Soscol Avenue/Kansas Avenue intersection would be operating at LOS D with 46.7 seconds control delay, the Soscol Avenue/Imola Avenue intersection would be operating at LOS E with 59.3 seconds control delay, and the Imola Avenue/Gasser Drive intersection would be operating at LOS B with 16.3 seconds control delay.

Table 3 shows that the addition of 500 apartments, only, to 2014 volumes would not result in any significant PM peak hour level of service impacts at any of the analysis intersections, with PM peak hour operation remaining at acceptable levels with the addition of project traffic.

Operation at the Soscol Avenue/Project Driveway, Soscol Avenue/Silverado Trail, and Imola Avenue/Gasser Drive would be LOS C or better, while at the Soscol Avenue/Kansas Avenue intersection, operation would be at an acceptable LOS D with 52.2 seconds control delay, and at the Soscol Avenue/ Imola Avenue intersection, operation would be an acceptable LOS E with 64.6 seconds control delay, which is less than mid-range delay (LOS E – 67.5) during the PM peak hour.

This would be a less than significant impact, no greater than analyzed in the 2006 EIR.

2. Vehicle Queuing Storage Adequacy – Imola Avenue/Gasser Drive Intersection

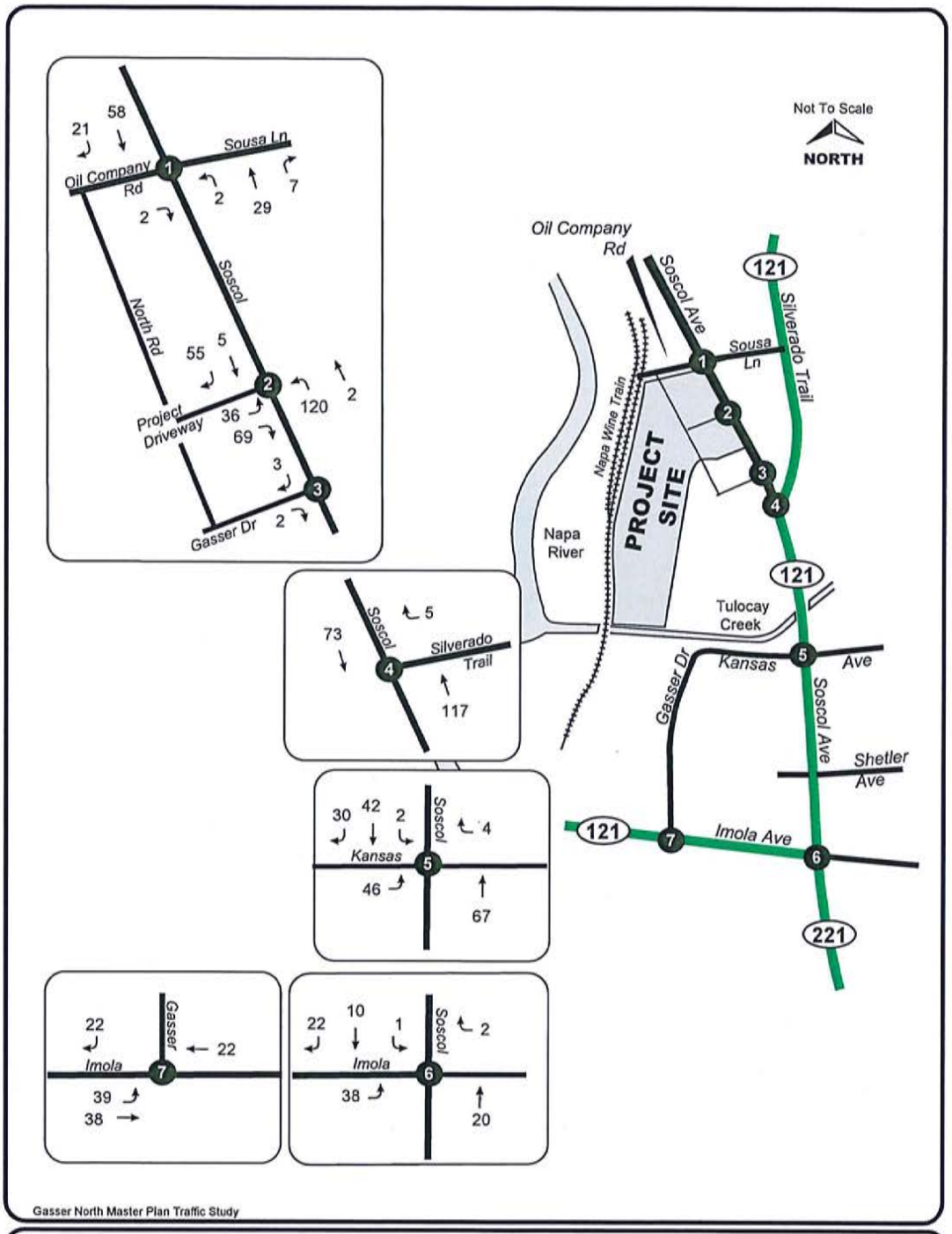
Table 4 shows that the addition of 500 apartments, only, to 2014 volumes would not increase 95th percentile vehicle queuing at the Imola Avenue/Gasser Drive intersection beyond available storage in either the Imola Avenue eastbound approach left turn lanes or the westbound approach through lanes. During the PM peak hour, the period with the longest queues, the dual left turn lanes on the eastbound Imola Avenue approach would have a 150-foot queue demand per lane with 275 feet of storage per lane, while the westbound through lanes would have a 425-foot queue demand per lane with 475 feet of storage per lane.

This would be a less than significant impact, consistent with mitigated conditions resulting from analyses conducted for the Gasser South development; no greater than the impacts analyzed in the 2006 Master Plan EIR.

3. Vehicle Queuing Storage Adequacy – Soscol Avenue/Project Driveway Intersection

Table 12 shows that the addition of 500 apartments, only, to 2014 volumes would not increase 95th percentile vehicle queuing at the Soscol Avenue/Project Driveway intersection beyond available storage in either the Project Driveway eastbound approach left or right turn lanes or in the northbound or southbound Soscol Avenue approach lanes. Soscol Avenue would have a queue demand of 75 feet in each northbound through lane with over 1,000 feet per lane storage, and 400 feet in each southbound through lane with over 1,000-feet per lane storage. Southbound right turns would have a 25-foot storage demand with 100-foot lane storage, and northbound left turns would have a 175-foot storage demand with a 250-foot per lane storage.

This impact was not directly analyzed in the 2006 Master Plan EIR because the location of the entry has shifted from Oil Company Road to the present location; however, the impact would be less than significant, resulting in no new significant impacts beyond those analyzed in the 2006 Master Plan EIR.



Gasser North Master Plan Traffic Study

Figure 10
500 Residential Dwelling Units (August Thursday)
PM Peak Hour Project Increment
Applies to 2014, 2018 and 2020 Conditions

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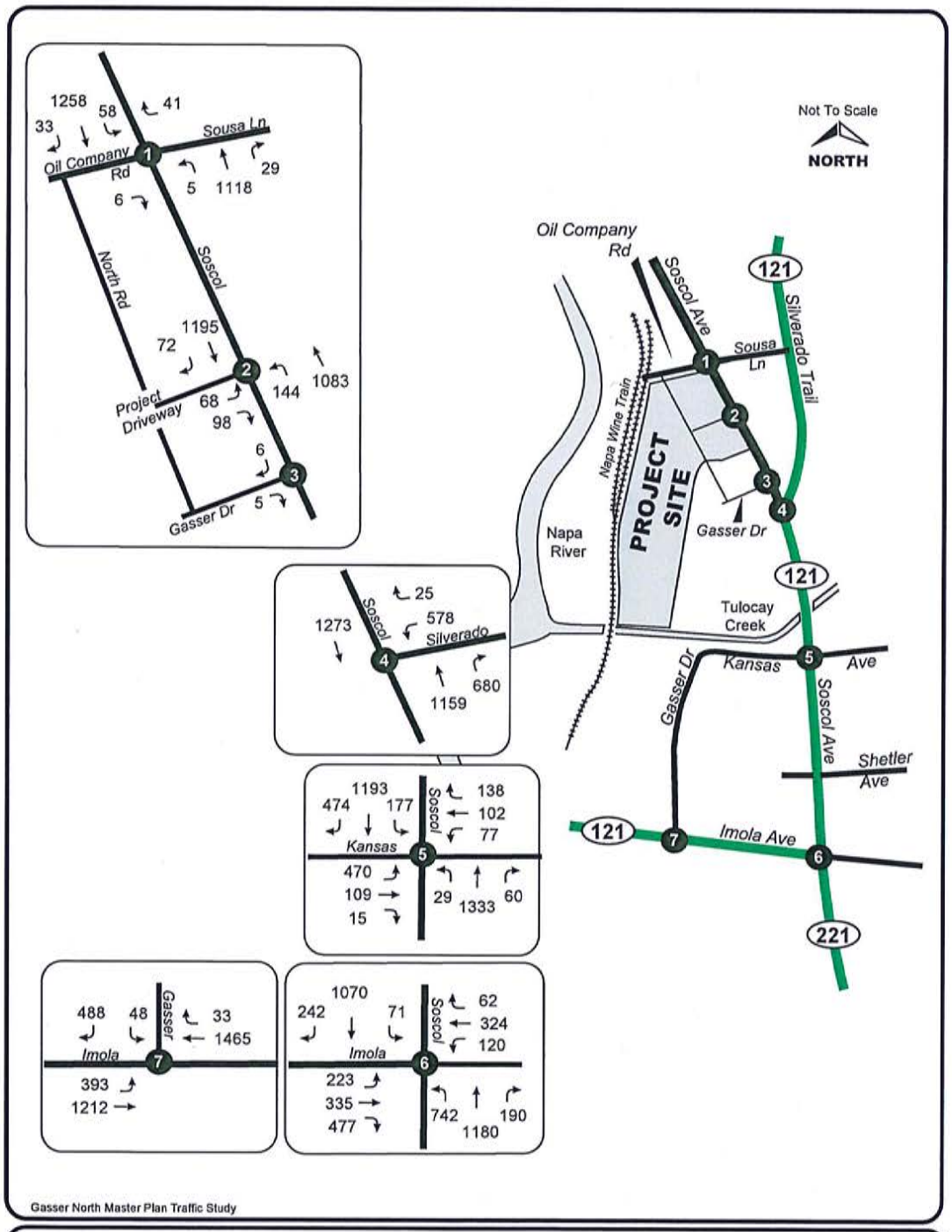

Gasser North Master Plan Traffic Study

Figure 11
Year 2014 (August Thursday) with 500 Apartments in Gasser North PM Peak Hour Volumes

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Table 12

95TH PERCENTILE VEHICLE QUEUES [1]
SOSCOL AVENUE/PROJECT DRIVEWAY
SIGNALIZED INTERSECTION
YEAR 2014

STREET	APPROACH	MOVEMENT	# LANES	STORAGE (FEET/LANE)	STORAGE DEMAND IN FEET PER LANE YEAR 2014 WITH 500 APTS IN GASSER NORTH
Soscol Ave.	NB	Left turn	1	250	175
		Thru	2	1,150	75
	SB	Right turn	1	100	50
		Thru	2	1000+	400
Project Driveway	EB	Left turn	2	450 (total of two lanes) [2]	100
		Right turn	1	150	50

[1] Results are rounded upward to the next 25-foot increment. Except for Project Driveway eastbound left (see footnote 2), storage is per lane at 95% capacity.

[2] Storage lanes are different lengths: the left-most turn lane is 150 feet; the second left turn lane is 300 feet = 450 feet of left turn storage.

Year 2000 Highway Capacity Manual Analysis Methodology; Synchro 8 software program.
Source: Crane Transportation Group

E. YEAR 2018 WITH 500 APARTMENTS, ONLY, TRAFFIC IMPACTS (see Figures 12 and 13)

1. Level of Service

Table 6 shows that with the addition of 500 apartments, only, to year 2018 volumes, one of the five signalized analysis intersections would be experiencing unacceptable level of service operation:

- Soscol Avenue/Imola Avenue (signal): Operation would be LOS F with 94.6 seconds control delay.

The project would add more than 50 trips to PM peak hour volumes at this intersection, indicating a significant project impact.

At the Soscol Avenue unsignalized intersection with Oil Company Road-Sousa Lane, operation would be an acceptable LOS C or better on both the eastbound and westbound approaches; at the Soscol Avenue signalized intersection with the Project Driveway, operation would be an acceptable LOS B with 19.1 seconds control delay; at the Soscol Avenue unsignalized intersection with Gasser Drive, operation would be LOS B with 12.2 seconds control delay; at the Soscol Avenue signalized intersection with Kansas Avenue, operation would be an acceptable LOS D with 48.5 seconds control delay; and at the Soscol Avenue signalized intersection with Silverado Trail, operation would be an acceptable LOS D with 50.5 seconds control delay. Also, the Imola Avenue/Gasser Drive intersection would be operating at an acceptable LOS B with 19.4 seconds control delay.

This impact was not directly analyzed in the 2006 Master Plan EIR because a bridge was assumed as part of the project in the 2006 analysis and the location of the entry has shifted from Oil Company Road to the present location; this would be a significant impact if not mitigated. The mitigations recommended in Chapter VIII.-Recommended Mitigations would reduce the impact to less than significant in a manner consistent with the EIR.

2. Vehicle Queuing Storage Adequacy – Imola Avenue/Gasser Drive Intersection

Table 8 shows that the addition of 500 apartments, only, to year 2018 volumes, and allowing for optimized signal timing to accommodate queue storage lengths, 95th percentile vehicle queuing at the Imola Avenue/Gasser Drive intersection would not increase beyond available storage in either the Imola Avenue eastbound approach left turn lanes or the westbound approach through lanes. During the PM peak hour, the period with the longest queues, the dual left turn lanes on the eastbound Imola Avenue approach would have a 225-foot queue demand per lane with 275 feet of storage per lane, while the westbound through lanes would have a 425-foot queue demand per lane with 475 feet of storage per lane.

This would be a less than significant impact, consistent with mitigated conditions resulting from analyses conducted for the Gasser South development; no greater than the impacts analyzed in the 2006 Master Plan EIR.

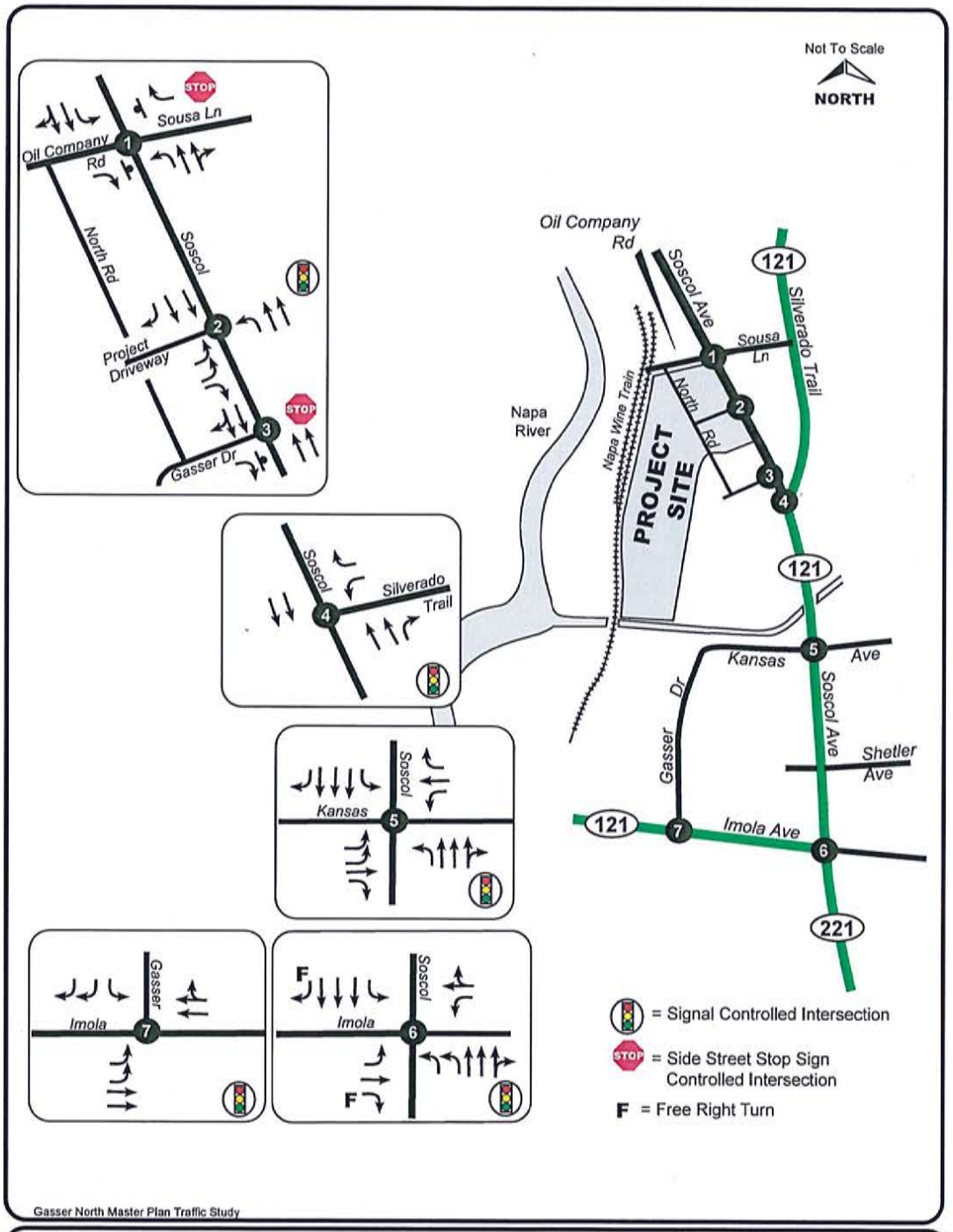

Figure 12
Year 2018 and 2020 Lane Geometrics and Intersection Control with Buildout of Gasser North without Gasser Drive Extension and Bridge

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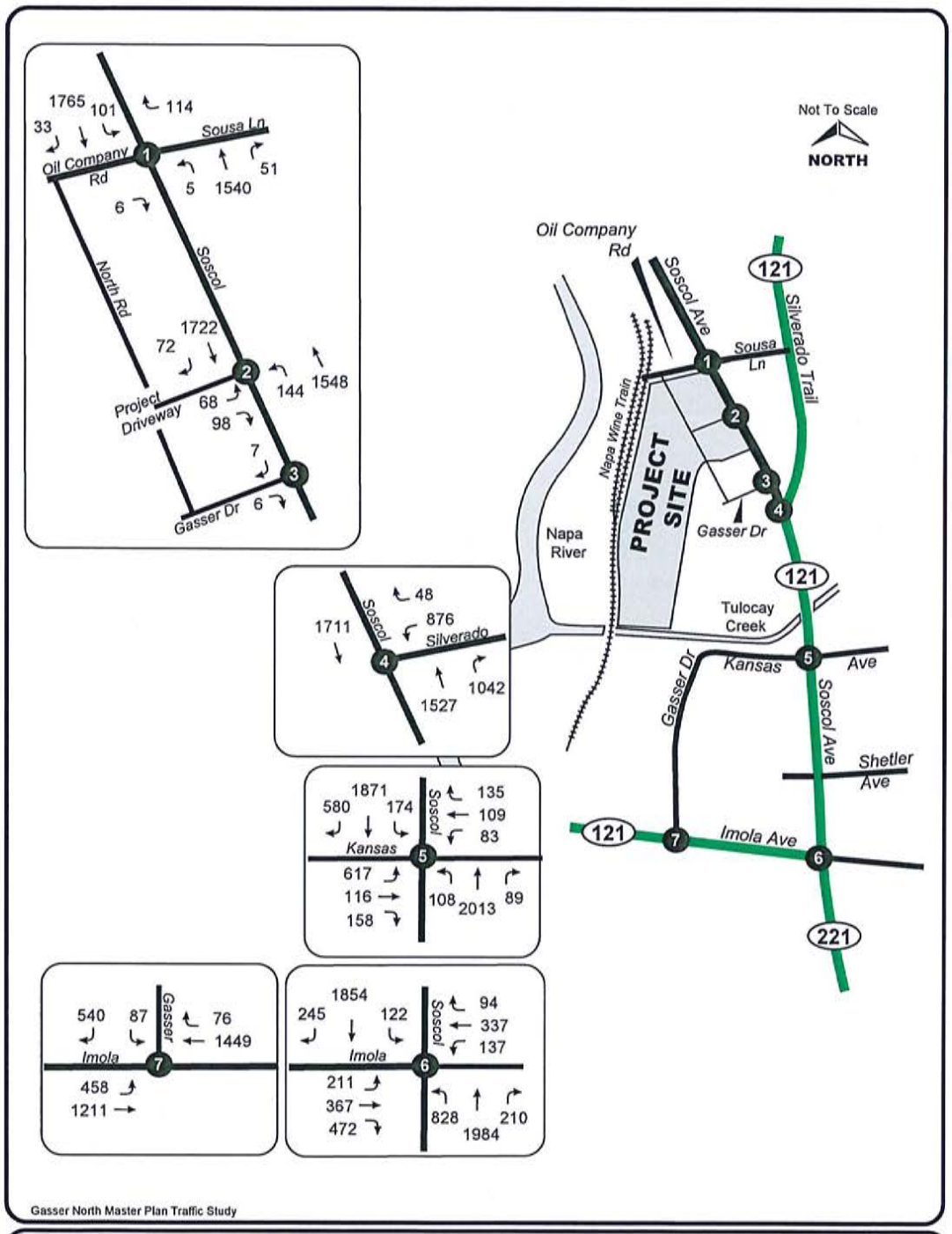

Gasser North Master Plan Traffic Study

Figure 13
Year 2018 (August Thursday) with 500 Apartments in Gasser North PM Peak Hour Volumes

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3. Vehicle Queuing Storage Adequacy – Soscol Avenue/Project Driveway Intersection

Table 13 shows that the addition of 500 apartments, only, to year 2018 volumes would not increase 95th percentile vehicle queuing at the Soscol Avenue/Project Driveway intersection beyond available storage in either the Project Driveway eastbound approach left or right turn lanes or in the northbound or southbound Soscol Avenue approach lanes. Soscol Avenue would have a queue demand of 125 feet in each northbound through lane with over 1,000-feet per lane storage, and 700 feet in each southbound through lane with over 1000-feet per lane storage. Southbound right turns would have a 25-foot queue demand with a100-foot lane storage, and northbound left turns would have a 125-foot queue demand within a single lane with a 250-foot lane storage.

This impact was not directly analyzed in the 2006 Master Plan EIR because the location of the entry has shifted from Oil Company road to the present location; however, the impact would be less than significant, resulting in no new significant impacts beyond those analyzed in the 2006 Master Plan EIR.

Table 13

95TH PERCENTILE VEHICLE QUEUES (1)
SOSCOL AVENUE/PROJECT DRIVEWAY
SIGNALIZED INTERSECTION
YEAR 2018

STREET	APPROACH	MOVEMENT	# LANES	STORAGE (FEET/LANE)	STORAGE DEMAND IN FEET PER LANE WITH 500 APTS IN GASSER NORTH	STORAGE DEMAND IN FEET PER LANE WITH BUILDOUT GASSER NORTH W/O BRIDGE	STORAGE DEMAND IN FEET PER LANE WITH BUILDOUT GASSER NORTH WITH BRIDGE
Soscol Avenue	NB	Left turn	1	250 '	125	250	150
		Thru	2	1,150'	125	150	150
	SB	Right turn	1	100'	25	50	50
		Thru	2	1000'+	700	725	700
Project Driveway	EB	Left turn	2	450 (total of two lanes) (2)	100	200	300
		Right turn	1	150'	50	75	50

(1) Results are rounded upward to the next 25-foot increment. Except for Project Driveway eastbound left (see footnote 2) , storage is per lane at 95% capacity.

(2) Storage lanes are different lengths: the left-most turn lane is 150 feet; the second left turn lane is 300 feet = 450 feet of left turn storage.

Year 2000 Highway Capacity Manual Analysis Methodology; Synchro 8 software program.
Source: Crane Transportation Group

F. YEAR 2018 WITH BUILDOUT OF GASSER NORTH MASTER PLAN DEVELOPMENT – WITHOUT GASSER DRIVE EXTENSION AND BRIDGE TRAFFIC IMPACTS (see Figure 14)

1. Level of Service

Table 6 shows that with 2018 buildout of the Gasser North Master Plan Development Project – without Gasser Drive extension and bridge PM peak hour volumes, one of the analysis intersections would be experiencing unacceptable level of service operation:

- Soscol Avenue/Imola Avenue (signal): Operation would be LOS F with 101.3 seconds control delay.

The project would add more than 50 trips to PM peak hour volumes at this intersection, indicating a significant project impact.

At the Soscol Avenue unsignalized intersection with Oil Company Road-Sousa Lane, operation would be an acceptable LOS C or better on both the eastbound and westbound approaches; at the Soscol Avenue signalized intersection with the Project Driveway, operation would be an acceptable LOS C with 31.4 seconds control delay; at the Soscol Avenue signalized intersection with Silverado Trail, operation would be an acceptable LOS E, with 60.8 seconds control delay; and at the at the Soscol Avenue signalized intersection with Kansas Avenue, operation would be an acceptable LOS D with 51.9 seconds control delay. Also, the Imola Avenue/Gasser Drive intersection would be operating at an acceptable LOS C with 21.3 seconds control delay.

This impact was not directly analyzed in the 2006 Master Plan EIR because a bridge was assumed as part of the project in the 2006 analysis and the location of the entry has shifted from Oil Company Road to the present location; this would be a significant impact without mitigation. The mitigations recommended in Chapter VIII.-Recommended Mitigations would reduce the impact to less than significant in a manner consistent with the EIR.

2. Vehicle Queuing Storage Adequacy – Imola Avenue/Gasser Drive Intersection

Table 8 shows that with 2018 buildout of the Gasser North Master Plan Development Project - without Gasser Drive extension and bridge, and allowing for optimized signal timing to accommodate queue storage lengths, 95th percentile vehicle queuing at the Imola Avenue/Gasser Drive intersection would not increase beyond available storage in either the Imola Avenue eastbound approach left turn lanes or the westbound approach through lanes. During the PM peak hour, the period with the longest queues, the dual left turn lanes on the eastbound Imola Avenue approach would have a 225-foot queue demand per lane with 275 feet of storage per lane, while the westbound through lanes would have a 425-foot queue demand per lane with 475 feet of storage per lane.

This would be a less than significant impact, consistent with mitigated conditions resulting from analyses conducted for the Gasser South development; no greater than the impacts analyzed in the 2006 Master Plan EIR.

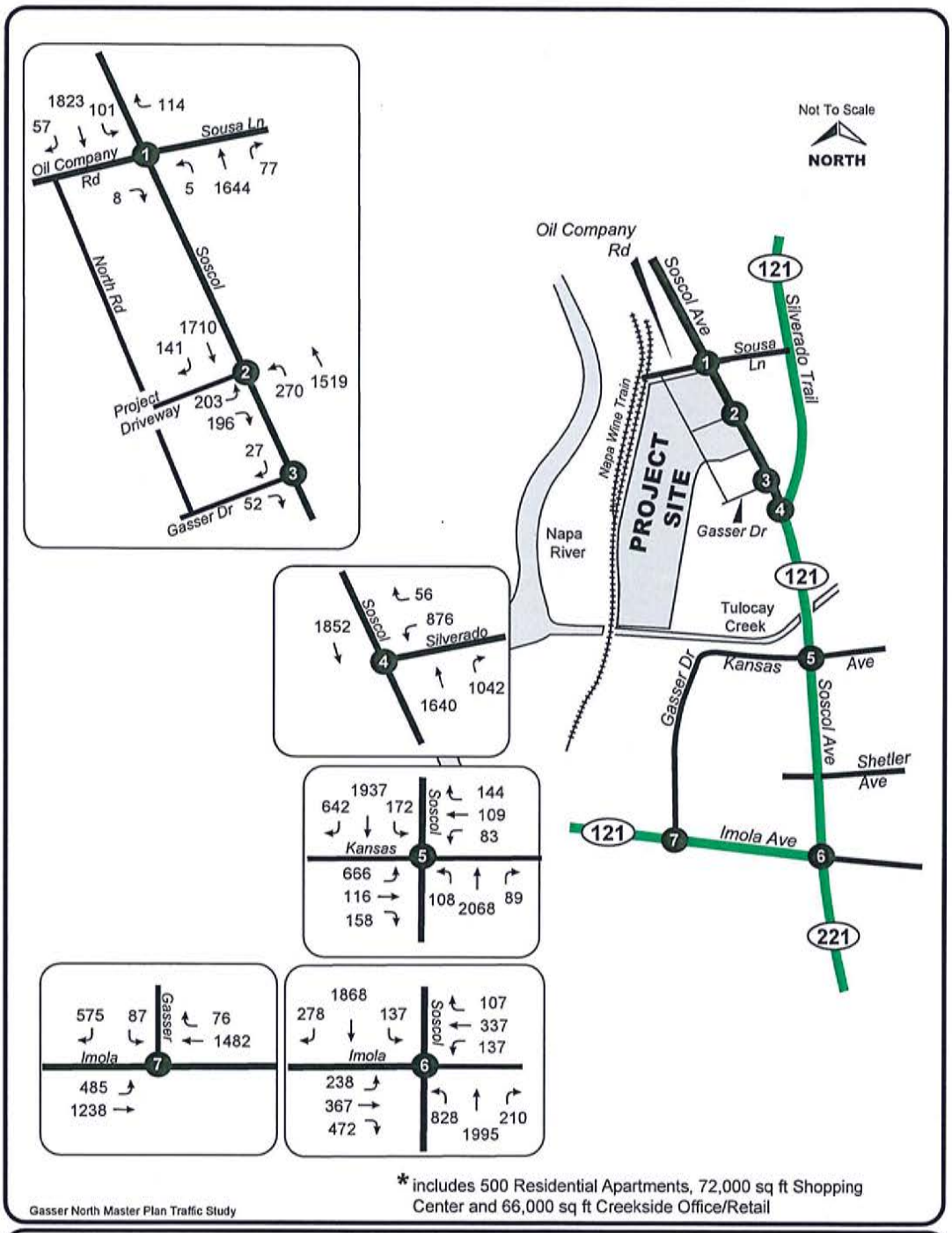

Figure 14
Year 2018 (August Thursday) with Buildout of Gasser North* without Gasser Drive Extension and Bridge PM Peak Hour Volumes

CRANE TRANSPORTATION GROUP

3. Vehicle Queuing Storage Adequacy – Soscol Avenue/Project Driveway Intersection

Table 13 shows that the addition of buildout of the Gasser North Master Plan Development – without Gasser Drive extension and bridge to year 2018 volumes would not increase 95th percentile vehicle queuing at the Soscol Avenue/Project Driveway intersection beyond available storage in either the Project Driveway eastbound approach left or right turn lanes or in the northbound or southbound Soscol Avenue approach lanes. The single Soscol Avenue northbound left turn lane demand would reach the 250-foot lane capacity. Soscol Avenue would have a queue demand of 150 feet in each northbound through lane with over 1,000-feet per lane storage, and 725 feet in each southbound through lane with over 1000-feet per lane storage. Southbound right turns would have a 50-foot queue demand with a 100-foot lane storage.

This impact was not directly analyzed in the 2006 Master Plan EIR because the location of the entry has shifted from Oil Company Road to the present location; however, the impact would be less than significant, resulting in no new significant impacts beyond those analyzed in the 2006 Master Plan EIR.

G. YEAR 2018 WITH BUILDOUT OF GASSER NORTH MASTER PLAN DEVELOPMENT – WITH GASSER DRIVE EXTENSION AND BRIDGE TRAFFIC IMPACTS (see Figures 15 and 16)

1. Level of Service

Table 6 shows that the addition of buildout of the Gasser North Master Plan Development – with Gasser Drive extension and bridge added to 2018 PM peak hour volumes, one of the analysis intersections would be experiencing unacceptable level of service operation:

- Soscol Avenue/Imola Avenue (signal): Operation would be LOS F with 96.4 seconds control delay.

The project would add more than 50 trips to PM peak hour volumes at this intersection, indicating a significant project impact.

At the Soscol Avenue unsignalized intersection with Oil Company Road-Sousa Lane, operation would be an acceptable LOS C on both the eastbound and westbound intersection approaches; at the Soscol Avenue signalized intersection with the Project Driveway, operation would be an acceptable LOS C with 23.2 seconds control delay; at the Soscol Avenue stop sign controlled intersection with/Gasser Drive, operation would be an acceptable LOS B with 11.6 seconds control delay; at the Soscol Avenue signalized intersection with Silverado Trail, operation would be an acceptable LOS D, with 45.4 seconds control delay; at the Soscol Avenue signalized intersection with Kansas Avenue, operation would be an acceptable LOS D with 47.2 seconds control delay; and at the Kansas Avenue signalized intersection with Gasser Drive, operation would be an acceptable C with 30.1 seconds control delay. Also, the Imola Avenue/Gasser Drive intersection would be operating at an acceptable LOS C with 23.1 seconds control delay.

This impact was not directly analyzed in the 2006 Master Plan EIR because a bridge was assumed as part of the project in the 2006 analysis and the location of the entry has shifted from Oil Company Road to the present location; this would be a significant impact without mitigation. The mitigations recommended in Chapter VIII.-Recommended Mitigations would reduce the impact to less than significant in a manner consistent with the EIR

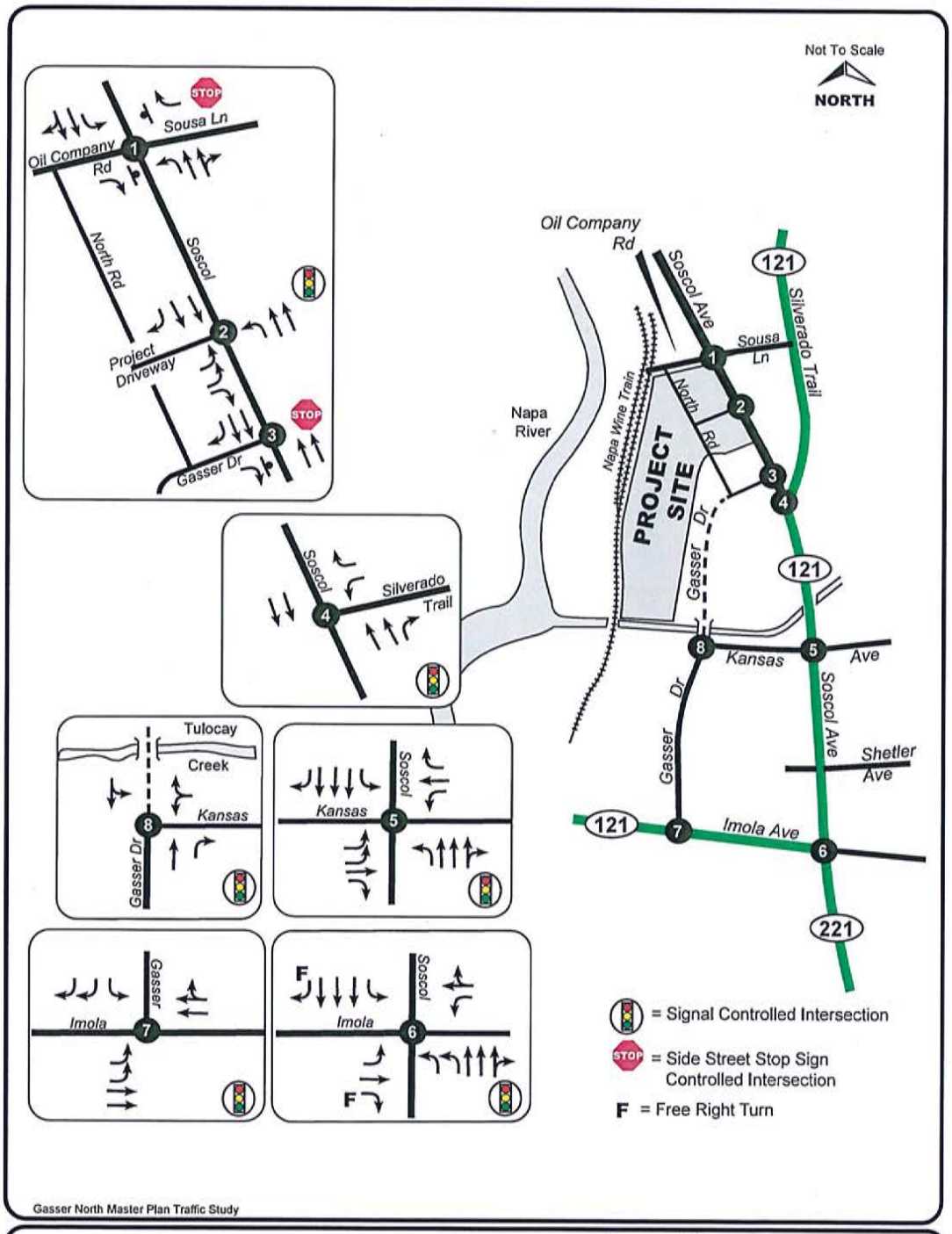

Figure 15

Year 2018 and 2020 Lane Geometrics and Intersection Control with Buildout of Gasser North with Gasser Drive Extension and Bridge

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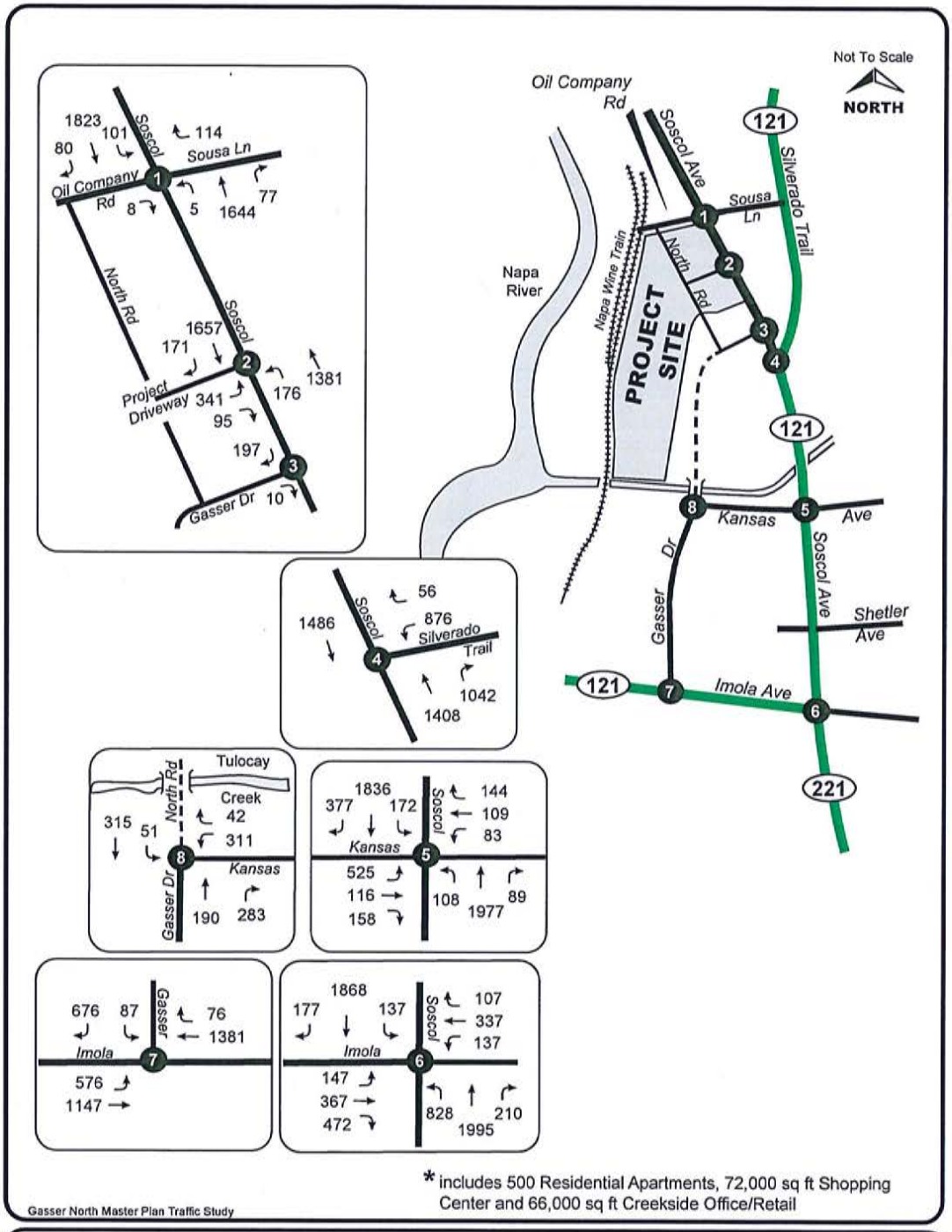

* includes 500 Residential Apartments, 72,000 sq ft Shopping Center and 66,000 sq ft Creekside Office/Retail

Gasser North Master Plan Traffic Study

Figure 16

Year 2018 (August Thursday) with Buildout of Gasser North* with Gasser Drive Extension and Bridge PM Peak Hour Volumes

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2. Vehicle Queuing Storage Adequacy – Imola Avenue/Gasser Drive Intersection

Table 8 shows that the addition of buildout of the Gasser North Master Plan Development – with Gasser Drive extension and bridge added to 2018 PM peak hour volumes, and allowing for optimized signal timing to accommodate queue storage lengths, 95th percentile vehicle queuing at the Imola Avenue/Gasser Drive intersection would not increase beyond available storage in either the Imola Avenue eastbound approach left turn lanes or the westbound approach through lanes. During the PM peak hour, the period with the longest queues, the dual left turn lanes on the eastbound Imola Avenue approach would have a 275-foot queue demand per lane with 275 feet of storage per lane, while the westbound through lanes would have a 400-foot queue demand per lane with 475 feet of storage per lane.

This would be a less than significant impact, consistent with mitigated conditions resulting from analyses conducted for the Gasser South development; no greater than the impacts analyzed in the 2006 Master Plan EIR.

3. Vehicle Queuing Storage Adequacy – Soscol Avenue/Project Driveway Intersection

Table 13 shows that the addition of buildout of the Gasser North Master Plan Development – with Gasser Drive extension and bridge added to 2018 PM peak hour volumes, would not increase 95th percentile vehicle queuing at the Soscol Avenue/Project Driveway intersection beyond available storage in either the Project Driveway eastbound approach left or right turn lanes or in the northbound or southbound Soscol Avenue approach lanes. The Soscol Avenue single northbound left turn lane demand would be reduced to 150 feet with a 250-foot lane capacity. Soscol Avenue would have a queue demand of 150 feet in each northbound through lane with over 1,000-feet per lane storage, and 700 feet in each southbound through lane with over 1000-feet per lane storage. Southbound right turns would have a 50-foot queue demand with a 100-foot lane storage. Eastbound left turns would have a total 300-foot queue demand with a 450-foot capacity (total capacity for the two approach lanes), and eastbound right turns would have a 50-foot queue demand with a 150-foot capacity.

This impact was not directly analyzed in the 2006 Master Plan EIR because the location of the entry has shifted from Oil Company Road to the present location; however, the impact would be less than significant, resulting in no new significant impacts beyond those analyzed in the 2006 Master Plan EIR.

4. Vehicle Queuing Storage Adequacy – Kansas Avenue/Gasser Drive Intersection

Table 14 shows that the addition of buildout of the Gasser North Master Plan Development – with Gasser Drive extension and bridge added to 2018 PM peak hour volumes, 95th percentile vehicle queuing at the Kansas Avenue/Gasser Drive intersection would not increase beyond available storage in either the Kansas Avenue westbound approach lane or the Gasser Drive

northbound and southbound approach lanes. The westbound Kansas Avenue single lane approach would have a 300-foot queue demand with from 380 to 800 feet of lane storage.

This would be a less than significant impact, no greater than analyzed in the 2006 Master Plan EIR.

Table 14

95TH PERCENTILE VEHICLE QUEUES [1] KANSAS AVENUE/GASSER DRIVE INTERSECTION YEAR 2018

STREET	APPROACH	# LANES	STORAGE (FEET/LANE)	STORAGE DEMAND IN FEET PER LANE WITH BUILDOUT OF GASSER NORTH WITH BRIDGE
Gasser Dr.	NB right	1 lane	100'	50
	NB thru lane	1 lane	750'	200
	SB left/right/thru	1 lane	1,500'+	300
Kansas Ave.	WB left/right	1 lane	380'/ 800'	300

[1] Results are rounded upward to the next 25-foot increment. Storage is per lane at 95% capacity. The westbound lane would have 380-foot capacity to the Tulocay Commercial driveway, and 800-foot queuing capacity to Soscol Avenue.

Year 2000 Highway Capacity Manual Analysis Methodology; Synchro 8 software program.
Source: Crane Transportation Group

H. YEAR 2020 WITH 500 APARTMENTS, ONLY, IN THE GASSER NORTH MASTER PLAN DEVELOPMENT – WITHOUT GASSER DRIVE EXTENSION AND BRIDGE TRAFFIC IMPACTS (see Figure 17)

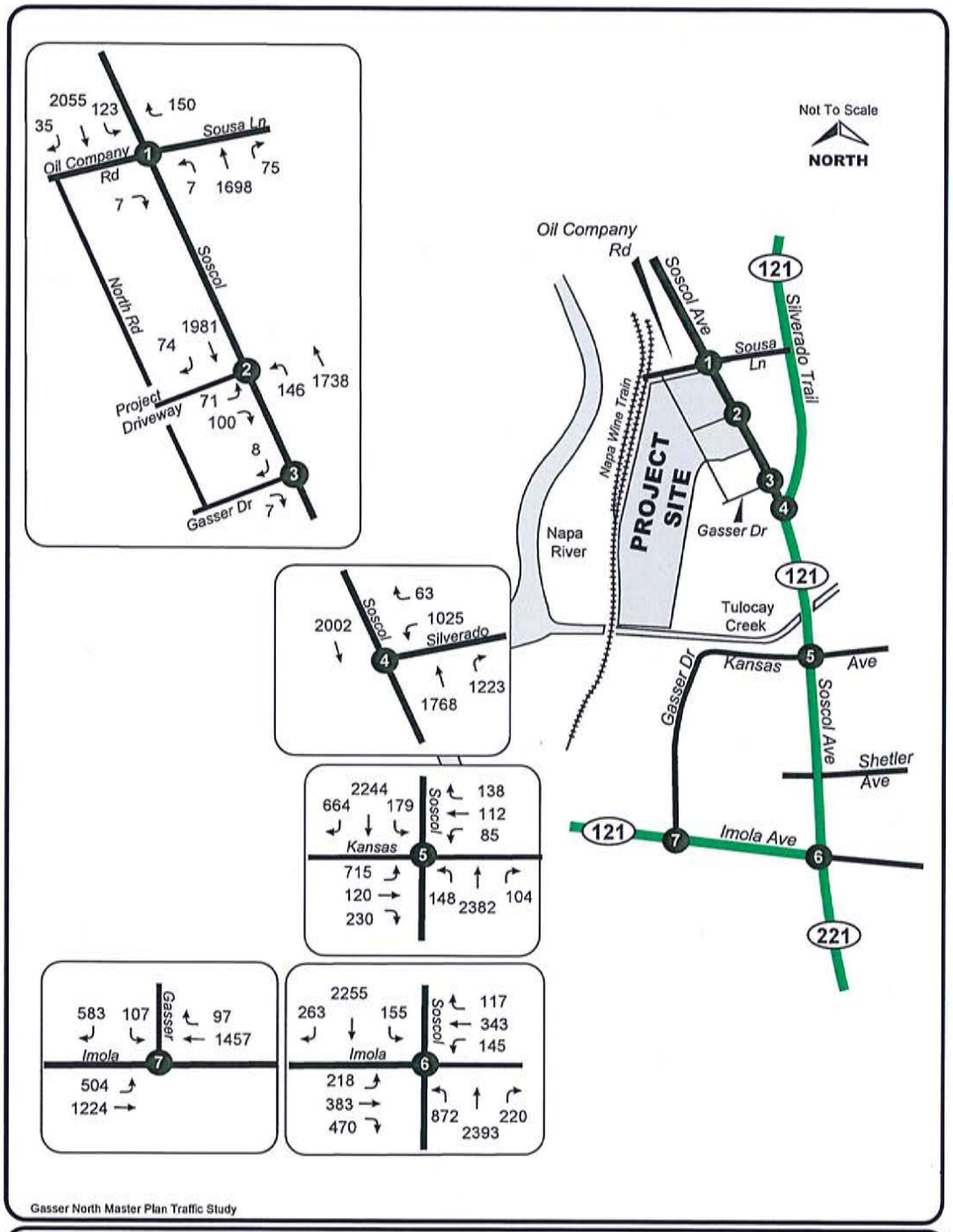
1. Level of Service

Table 7 shows that with 500 Apartments, only, in Gasser North – without Gasser Drive extension and bridge 2020 PM peak hour volumes, three analysis intersections would be experiencing unacceptable level of service operation.

- Soscol Avenue/Project Driveway (signal): Operation would be LOS D with 50.7 seconds control delay.
- Soscol Avenue/Kansas Avenue (signal): Operation would be LOS F with 82.3 seconds control delay.

- Soscol Avenue/Imola Avenue (signal): Operation would be LOS F with 148.0 seconds control delay.

The project would add more than 50 trips to PM peak hour volumes at these intersections, indicating a significant project impact.



Gasser North Master Plan Traffic Study

Figure 17

Year 2020 (August Thursday) with 500 Apartments in Gasser North PM Peak Hour Volumes

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At the Soscol Avenue stop sign controlled intersection with Oil Company Road-Sousa Lane, operation would be LOS C or better on both the eastbound and westbound approaches; at the Soscol Avenue stop sign controlled intersection with Gasser Drive, operation would be an acceptable LOS B with 12.1 seconds control delay; at the Soscol Avenue signalized intersection with Silverado Trail, operation would be an acceptable LOS F with 92.9 seconds control delay; although this intersection is experiencing LOS F, the control delay is a lower F (92.9 versus 94.2) than would be experienced in the 2020 without project condition, resulting in an acceptable LOS for this intersection in the 2020 with 500 apartment unit scenario. At the Imola Avenue/Gasser Drive intersection operation would be an acceptable LOS C with 23.0 seconds control delay, with signal timing optimized to facilitate meeting queue storage limits.

This impact was not directly analyzed in the 2006 Master Plan EIR because a bridge was assumed as part of the project in the 2006 analysis and the location of the entry has shifted from Oil Company Road to the present location; this would be a significant impact without mitigation. The mitigations recommended in Chapter VIII.-Recommended Mitigations would reduce the impact to less than significant in a manner consistent with the EIR.

2. Vehicle Queuing Storage Adequacy – Imola Avenue/Gasser Drive Intersection

Table 9 shows that with 500 Apartments, only, in Gasser North – without Gasser Drive extension and bridge 2020 PM peak hour volumes, and allowing for optimized signal timing to accommodate queue storage lengths, 95th percentile vehicle queuing at the Imola Avenue/Gasser Drive intersection would not increase beyond available storage in either the Imola Avenue eastbound approach left turn lanes or the westbound approach through lanes. During the PM peak hour, the period with the longest queues, the dual left turn lanes on the eastbound Imola Avenue approach would have a 250-foot queue demand per lane with 275 feet of storage per lane, while the westbound through lanes would have a 400-foot queue demand per lane with 475 feet of storage per lane.

This would be a less than significant impact, consistent with mitigated conditions resulting from analyses conducted for the Gasser South development, no greater than the impacts analyzed in the 2006 Master Plan EIR.

3. Vehicle Queuing Storage Adequacy – Soscol Avenue/Project Driveway Intersection

Table 15 shows that with 500 Apartments, only, in Gasser North – without Gasser Drive extension and bridge 2020 PM peak hour volumes, 95th percentile vehicle queuing at the Soscol Avenue/Project Driveway intersection would not increase beyond available storage in either the Project Driveway eastbound approach left or right turn lanes or in the northbound or southbound Soscol Avenue approach lanes. The Soscol Avenue single northbound left turn lane would have a 125-foot storage demand with a 250-foot lane capacity. Soscol Avenue would have a queue demand of 250 feet in each northbound through lane with over 1,000-feet per lane storage, and 925 feet in each southbound through lane with over 1000-feet per lane storage. Southbound right turns would have a 50-foot queue demand with a100-foot lane storage.

This impact was not directly analyzed in the 2006 Master Plan EIR because the location of the entry has shifted from Oil Company Road to the present location; however, the impact would be less than significant, resulting in no new significant impacts beyond those analyzed in the 2006 Master Plan EIR.

Table 15

95TH PERCENTILE VEHICLE QUEUES [1] SOSCOL AVENUE/PROJECT DRIVEWAY SIGNALIZED INTERSECTION YEAR 2020

STREET	APPROACH	MOVE-MENT	# LANES	STORAGE (FEET/LANE)	STORAGE DEMAND IN FEET PER LANE WITH 500 APT UNITS, ONLY IN GASSER NORTH (W/O BRIDGE)	STORAGE DEMAND IN FEET PER LANE WITH 500 APT UNITS PLUS 72 K COMMERCIAL IN GASSER NORTH -NO CREEKSIDE - (W/O BRIDGE)	STORAGE DEMAND IN FEET PER LANE WITH BUILDOUT GASSER NORTH (W/O BRIDGE)	STORAGE DEMAND IN FEET PER LANE WITH BUILDOUT GASSER NORTH WITH BRIDGE
Soscol Ave.	NB	Left turn	1	250	125	200	**275**	175
		Thru	2	1,150	250	250	250	225
	SB	Right turn	1	100	50	50	50	75
		Thru	2	1000+	925	900	925	850
Project Driveway	EB	Left turn	2	450 (total of two lanes) [2]	100	150	200	375
		Right turn	1	150	50	75	75	50

Bold typeface indicates a significant impact.

[1] Results are rounded upward to the next 25-foot increment. Except for Project Driveway eastbound left (see footnote 2), storage is per lane at 95% capacity.

[2] Storage lanes are different lengths: the left-most turn lane is 150 feet; the second left turn lane is 300 feet = 450 feet of left turn storage.

Year 2000 Highway Capacity Manual Analysis Methodology; Synchro 8 software program.
Source: Crane Transportation Group

I. YEAR 2020 WITH 500 APARTMENTS AND 72,000 SQ FT COMMERCIAL IN THE GASSER NORTH MASTER PLAN DEVELOPMENT – WITHOUT GASSER DRIVE EXTENSION AND BRIDGE TRAFFIC IMPACTS (see Figure 18)

1. Level of Service

Table 7 shows that with 500 apartments and 72,000 sq. ft. commercial in Gasser North – without Gasser Drive extension and bridge, four analysis intersections would be experiencing unacceptable level of service operation. They are:

- Soscol Avenue/Project Driveway (signal): Operation would be LOS D with 52.0 seconds control delay.Soscol Avenue/Silverado Trail (signal): Operation would be LOS F with 95.9 seconds control delay.
- Soscol Avenue/Kansas Avenue (signal): Operation would be LOS F with 87.9 seconds control delay.
- Soscol Avenue/Imola Avenue (signal): Operation would be LOS F with 153.1 seconds control delay.

The project would add more than 50 trips to PM peak hour volumes at these intersections, indicating a significant project impact.

This impact was not directly analyzed in the 2006 Master Plan EIR because a bridge was assumed as part of the project in the 2006 analysis and the location of the entry has shifted from Oil Company Road to the present location; this would be a significant impact. The mitigations recommended in Chapter VIII.-Recommended Mitigations reduce the impact to less than significant in a manner consistent with the EIR

At the Soscol Avenue stop sign controlled intersection with Oil Company Road-Sousa Lane, operation would be an acceptable LOS D or better on both the eastbound and westbound approaches; at the Soscol Avenue intersection with Gasser Drive, operation would be an acceptable LOS B with 12.0 seconds control delay; and the Imola Avenue/Gasser Drive intersection would be operating at an acceptable LOS C with 25.0 seconds control delay with timing optimized to facilitate meeting queue storage limits.

This would be a less than significant impact, no greater than analyzed in the 2006 Master Plan EIR.

2. Vehicle Queuing Storage Adequacy – Imola Avenue/Gasser Drive Intersection

Table 9 shows that in 2020 with 500 apartments and 72,000 sq ft commercial in Gasser North – without Gasser Drive extension and bridge, and allowing for optimized signal timing to accommodate queue storage lengths, 95th percentile vehicle queuing at the Imola Avenue/Gasser Drive intersection would not increase beyond available storage in either the Imola Avenue eastbound approach left turn lanes or the westbound approach through lanes. During the PM peak hour, the period with the longest queues, the dual left turn lanes on the eastbound Imola

Avenue approach would have a 250-foot queue demand per lane with 275 feet of storage per lane, while the westbound through lanes would have a 475-foot queue demand per lane with 475 feet of storage per lane.

This would be a less than significant impact consistent with mitigated conditions resulting from analyses conducted for the Gasser South development; no greater than the impacts analyzed in the 2006 Master Plan EIR.

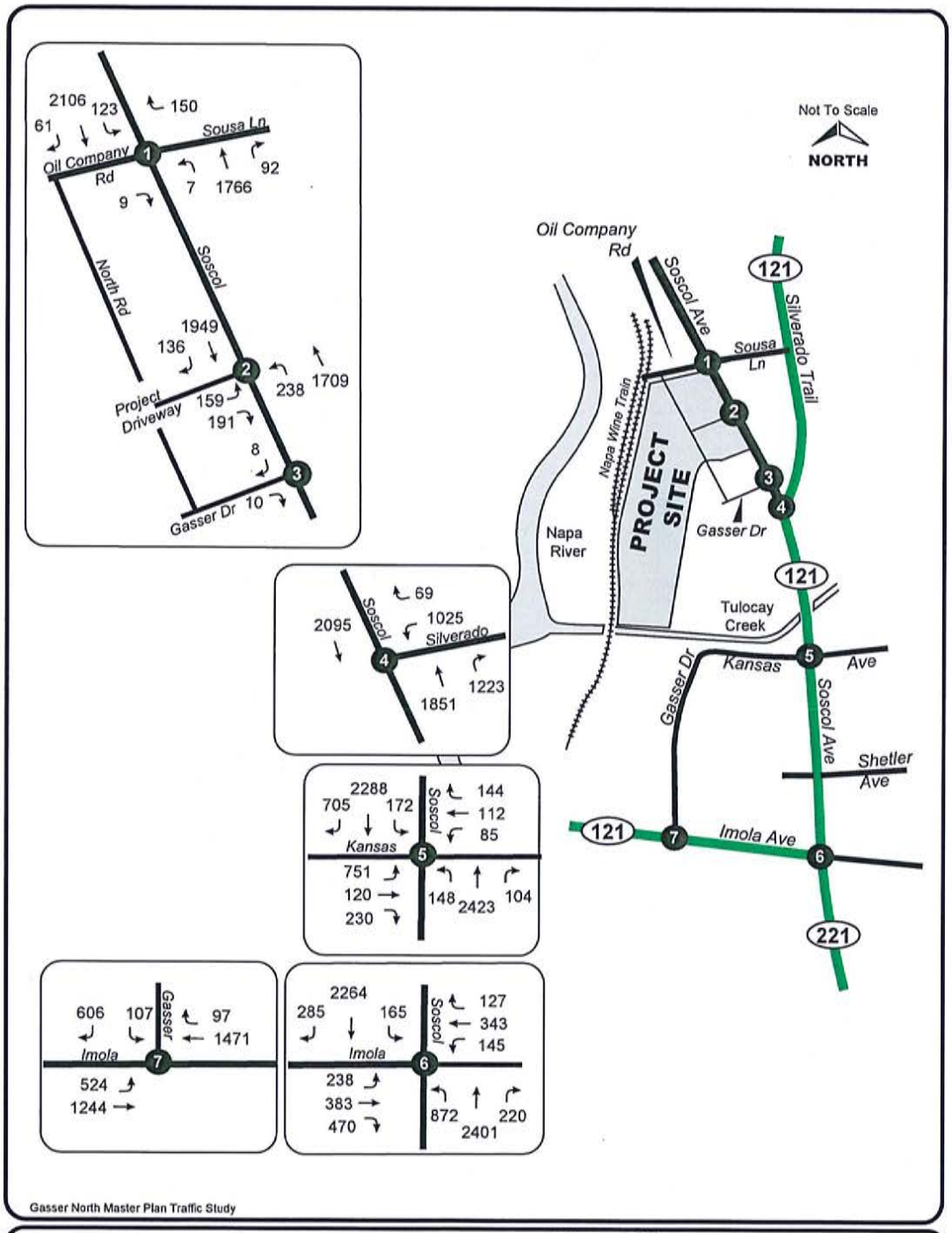

Figure 18
Year 2020 (August Thursday) with 500 Apartments and 72,000 sq. ft. Commercial in Gasser North - without Gasser Dr Extension and Bridge - PM Peak Hour Volumes

CRANE TRANSPORTATION GROUP

3. Vehicle Queuing Storage Adequacy – Soscol Avenue/Project Driveway Intersection

Table 15 shows that in 2020 with 500 apartments and 72,000 sq ft commercial in Gasser North – without Gasser Drive extension and bridge, project traffic would not increase 95th percentile vehicle queuing at the Soscol Avenue/Project Driveway intersection beyond available storage in either the Project Driveway eastbound approach left or right turn lanes or in the northbound or southbound Soscol Avenue approach lanes. The Soscol Avenue single northbound left turn lane would have a 200-foot storage demand with a 250-foot lane capacity. Soscol Avenue would have a queue demand of 250 feet in each northbound through lane with over 1,000-feet per lane storage, and 900 feet in each southbound through lane with over 1000-feet per lane storage. Southbound right turns would have a 50-foot queue demand with a 100-foot lane storage.

This impact was not directly analyzed in the 2006 Master Plan EIR because the location of the entry has shifted from Oil Company Road to the present location; however, the impact would be a less than significant impact, and this presents no new significant impacts beyond those analyzed in the 2006 Master Plan EIR.

J. YEAR 2020 WITH BUILDOUT OF GASSER NORTH MASTER PLAN DEVELOPMENT – WITHOUT GASSER DRIVE EXTENSION AND BRIDGE TRAFFIC IMPACTS (see Figure 19)

1. Level of Service

Table 7 shows that with 2020 with buildout of the Gasser North Master Plan Development project – without Gasser Drive extension and bridge PM peak hour volumes, four analysis intersections would be experiencing unacceptable level of service operation. They are:

- Soscol Avenue/Project Driveway (signal): Operation would be LOS D with 53.7 seconds control delay.
- Soscol Avenue/Silverado Trail (signal): Operation would be LOS F with 98.5 seconds control delay.
- Soscol Avenue/Kansas Avenue (signal): Operation would be LOS F with 91.7 seconds control delay.
- Soscol Avenue/Imola Avenue (signal): Operation would be LOS F with 155.1 seconds control delay.

The project would add more than 50 trips to PM peak hour volumes at these intersections, indicating a significant project impact.

This impact was not directly analyzed in the 2006 Master Plan EIR because a bridge was assumed as part of the project in the 2006 analysis and the location of the entry has shifted from Oil Company Road to the present location; this would be a significant impact. The

mitigations recommended in Chapter VIII.-Recommended Mitigations reduce the impact to less than significant in a manner consistent with the EIR.

At the Soscol Avenue unsignalized intersection with Oil Company-Sousa Lane, operation would be an acceptable LOS D or better on both the eastbound and westbound intersection approaches; at the Soscol Avenue unsignalized intersection with Gasser Drive, operation would be LOS B with 12.8 seconds control delay; and the Imola Avenue/Gasser Drive intersection would be operating at an acceptable LOS C with 26.0 seconds control delay with timing optimized to facilitate meeting queue storage limits.

This would be a less than significant impact, no greater than analyzed in the 2006 Master Plan EIR.

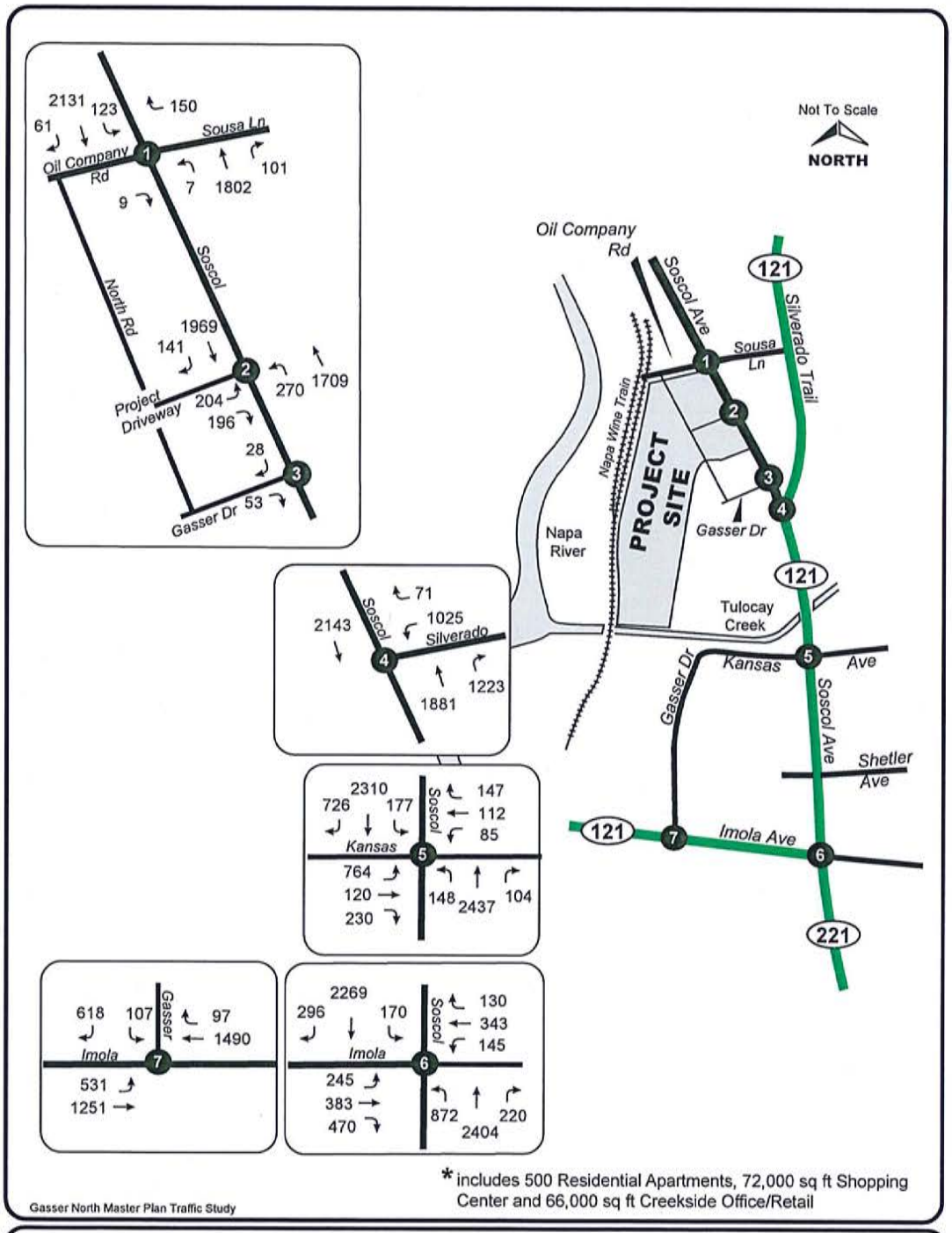

Figure 19

Year 2020 (August Thursday) with Buildout of Gasser North * without Gasser Drive Extension and Bridge - PM Peak Hour Volumes

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2. Vehicle Queuing Storage Adequacy – Imola Avenue/Gasser Drive Intersection

Table 9 shows that 2020 with buildout of Gasser North Master Plan Development – without Gasser Drive extension and bridge project traffic, and allowing for optimized signal timing to accommodate queue storage lengths, 95th percentile vehicle queuing at the Imola Avenue/Gasser Drive intersection would not increase beyond available storage in either the Imola Avenue eastbound approach left turn lanes or the westbound approach through lanes. During the PM peak hour, the period with the longest queues, the dual left turn lanes on the eastbound Imola Avenue approach would have a 250-foot queue demand per lane with 275 feet of storage per lane, while the westbound through lanes would have a 425-foot queue demand per lane with 475 feet of storage per lane.

This would be a less than significant impact consistent with mitigated conditions resulting from analyses conducted for the Gasser South development; no greater than the impacts analyzed in the 2006 Master Plan EIR.

3. Vehicle Queuing Storage Adequacy – Soscol Avenue/Project Driveway Intersection

Table 15 shows that 2020 with buildout of Gasser North Master Plan Development – without Gasser Drive extension and bridge project traffic would not increase 95th percentile vehicle queuing at the Soscol Avenue/Project Driveway intersection beyond available storage in either the Project Driveway eastbound approach left or right turn lanes or in the northbound or southbound Soscol Avenue approach lanes. However, the Soscol Avenue single northbound left turn lane would have a 275-foot storage demand with a 250-foot lane capacity, *resulting in a significant impact due to inadequate vehicle queuing storage.*

Soscol Avenue would have a queue demand of 250 feet in each northbound through lane with over 1,000-feet per lane storage, and 925 feet in each southbound through lane with over 1000-feet per lane storage. Southbound right turns would have a 50-foot queue demand with a100-foot lane storage.

This impact was not directly analyzed in the 2006 Master Plan EIR because a bridge was assumed as part of the project in the 2006 analysis and the location of the entry has shifted from Oil Company Road to the present location; this would be a significant impact without mitigation. The mitigations recommended in Chapter VIII.-Recommended Mitigations would reduce the impact to less than significant in a manner consistent with the EIR.

K. YEAR 2020 WITH BUILDOUT OF GASSER NORTH MASTER PLAN DEVELOPMENT – WITH GASSER DRIVE EXTENSION AND BRIDGE TRAFFIC IMPACTS (see Figure 20)

1. Level of Service

Table 7 shows that 2020 with buildout of the Gasser North Master Plan Development – with Gasser Drive extension and bridge PM peak hour volumes, two analysis intersections would be experiencing unacceptable level of service operation. They are:

- Soscol Avenue/Silverado Trail (signal): Operation would be LOS F with 96.4 seconds control delay.
- Soscol Avenue/Imola Avenue (signal): Operation would be LOS F with 151.8 seconds control delay.

The project would add more than 50 trips to PM peak hour volumes at these intersections, indicating a significant project impact.

This would be a significant impact, but no greater than analyzed in the 2006 Master Plan EIR. The mitigations recommended in Chapter VIII.-Recommended Mitigations reduce the impact to less than significant in a manner consistent with the EIR.

At the Soscol Avenue unsignalized intersection with Oil Company Road- Sousa Lane, operation would be an acceptable LOS D or better on both the eastbound and westbound approaches; at the Soscol Avenue signalized intersection with the Project Driveway, operation would be an acceptable LOS D with 41.6 seconds control delay; at the Soscol Avenue unsignalized intersection with Gasser Drive, operation would be LOS B-12.0; at the Soscol Avenue signalized intersection with Kansas Avenue, operation would be an acceptable LOS E with 72.3 seconds control delay; this is above a midrange E, however, the control delay is a lower E (72.3 versus 73.3) than would be experienced in the 2020 without project condition, resulting in an acceptable LOS for this intersection in the 2020 with full buildout of Gasser North with Gasser Drive extension and bridge scenario. ; At the Kansas Avenue/Gasser Drive intersection, operation would be an acceptable LOS D with 40.1 seconds control delay. Also, the Imola Avenue/Gasser Drive intersection would be operating at an acceptable LOS C with 25.2 seconds control delay with timing optimized to facilitate meeting queue storage limits.

This would be a less than significant impact, but no greater than analyzed in the 2006 Master Plan EIR. The mitigations recommended in Chapter VIII. – Recommended Mitigations reduce the impact to less than significant in a manner consistent with the EIR.

2. Vehicle Queuing Storage Adequacy – Imola Avenue/Gasser Drive Intersection

Table 9 shows that with 2020 buildout of the Gasser North Master Plan Development project – with the Gasser Drive extension and bridge, and allowing for optimized signal timing to accommodate queue storage lengths, 95th percentile vehicle queuing at the Imola Avenue/Gasser

Drive intersection would not increase beyond available storage in either the Imola Avenue eastbound approach left turn lanes or the westbound approach through lanes. During the PM peak hour, the period with the longest queues, the dual left turn lanes on the eastbound Imola Avenue approach would have a 275-foot queue demand per lane with 275 feet of storage per lane, while the westbound through lanes would have a 400-foot queue demand per lane with 475 feet of storage per lane.

This would be a less than significant impact, consistent with mitigated conditions resulting from analyses conducted for the Gasser South development; no greater than the impacts analyzed in the 2006 Master Plan EIR.

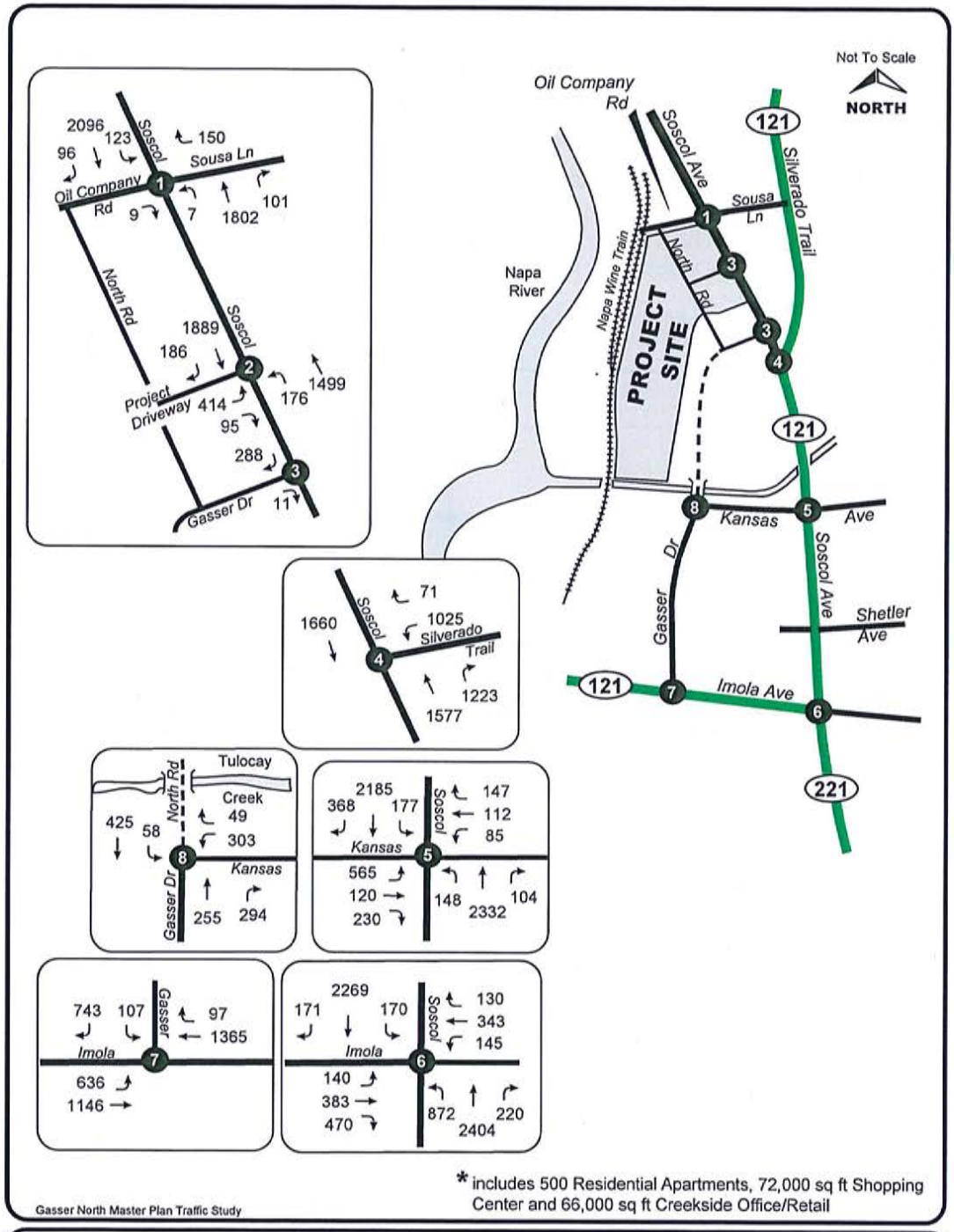

Figure 20

Year 2020 (August Thursday) with Buildout of Gasser North* with Gasser Drive Extension and Bridge - PM Peak Hour Volumes

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3. Vehicle Queuing Storage Adequacy – Soscol Avenue/Project Driveway Intersection

Table 15 shows that 2020 buildout of the Gasser North Master Plan Development – with Gasser Drive extension and bridge volumes would not increase 95th percentile vehicle queuing at the Soscol Avenue/Project Driveway intersection beyond available storage in either the Project Driveway eastbound approach left or right turn lanes or in the northbound or southbound Soscol Avenue approach lanes. The Soscol Avenue single northbound left turn demand would be reduced to 175 feet with a 250-foot lane capacity. Soscol Avenue would have a queue demand of 225 feet in each northbound through lane with over 1,000-feet per lane storage, and 850 feet in each southbound through lane with over 1000-feet per lane storage. Southbound right turns would have a 75-foot queue demand with a100-foot lane storage.

This impact was not directly analyzed in the 2006 Master Plan EIR because the location of the entry has shifted from Oil Company road to the present location; however, the impact would be less than significant, resulting in no new significant impacts beyond those analyzed in the 2006 Master Plan EIR.

4. Vehicle Queuing Storage Adequacy – Kansas Avenue/Gasser Drive Intersection

Table 16 shows that 2020 buildout of the Gasser North Master Plan Development – with Gasser Drive extension and bridge volumes, 95th percentile vehicle queuing at the Kansas Avenue/Gasser Drive intersection would not increase beyond available storage in either the Kansas Avenue westbound approach lane or the Gasser Drive northbound and southbound approach lanes. The westbound Kansas Avenue single lane approach would have a 275-foot queue demand with from 380 to 800 feet of lane storage.

This would be a less than significant impact, no greater than analyzed in the 2006 Master Plan EIR.

Table 16

95TH PERCENTILE VEHICLE QUEUES [1]
KANSAS AVENUE/GASSER DRIVE INTERSECTION
YEAR 2020

STREET	APPROACH	# LANES	STORAGE (FEET/LANE)	STORAGE DEMAND IN FEET PER LANE WITH BUILDOUT GASSER NORTH WITH BRIDGE
Gasser Dr.	NB right	1 lane	100'	50
	NB thru lane	1 lanes	750'	275
	SB left/right/thru	1 lane	1,500'+	375
Kansas Ave.	WB left/right	1 lane	380'/ 800'	275

[1] Results are rounded upward to the next 25-foot increment. Storage is per lane at 95% capacity. The westbound lane would have 380-foot capacity to the Commercial Center Driveway, and 800-foot queuing capacity to Soscol Avenue.

Year 2000 Highway Capacity Manual Analysis Methodology; Synchro 8 software program.
Source: Crane Transportation Group

VIII. RECOMMENDED MITIGATIONS

The traffic impacts found in this study to be significant are equal to or less than those analyzed in the 2006 Gasser Master Plan EIR. Many impacts identified in the 2006 EIR have been addressed in subsequent studies, such as *Traffic Impact Report for the Tulocay Village Apartment Homes Project, North Gasser Master Plan Residential Component (8/14/14),* the *Traffic Impact Report for the Gasser North Master Plan Development (7/3/12)* and the *Traffic Impact Report Addendum #1 for the Gasser North Master Plan Development (Tulocay Subdivision and Tulocay Commercial) Year 2020 Cumulative Operating conditions Without Gasser Drive Extended from Kansas Avenue to Soscol Avenue and No Realignment of Silverado Trail at Soscol Avenue (8/20/2012).*

This Traffic Study does not identify new significant impacts that were not previously analyzed or substantial increases in the severity of previously identified significant impacts, and therefore there are no new mitigation measures. However, specific design, timing or other aspects of implementing certain mitigation measures may be modified to reflect current conditions. These are described below, and result in mitigating impacts to acceptable levels (in some cases acceptable means back to "without project" conditions), as required by the City of Napa's Guidelines for Determination of Significant Impacts in its *Policy Guidelines: Traffic Impact Analysis (2006-5-12).* Table 19 provides a comprehensive list of mitigations for each intersection for each scenario. Where applicable, the 2006 Master Plan impact and mitigation numbers are referenced.

A. YEAR 2018 WITH 500 APARTMENTS IN GASSER NORTH - WITHOUT GASSER DRIVE EXTENSION AND BRIDGE (see Figure 21)

Year 2018 with 500 apartments in Gasser North – without Gasser Drive extension and bridge traffic volumes would result in a significant year 2018 PM peak hour intersection level of service impact at one signalized intersection: Soscol Avenue/Imola Avenue. Mitigation would bring LOS operation back to "without project" level of service.

Mitigation to "without project" Intersection Level of Service (see Table 17)

- **Soscol Avenue/Imola Avenue**

  1. Add an additional exclusive eastbound left turn lane, resulting one right, one through, and two left turn lanes.

  2. Add an exclusive westbound right turn lane, resulting in one left, one through and one right turn lane.

  Resultant August Thursday PM peak hour operation: LOS F-80.6 seconds, an improvement over the without Gasser North project LOS F-91.3 seconds.

The 2006 Gasser Master Plan Final EIR found in **Impact TRA-20: Imola Avenue/Soscol Avenue** that the project volume contribution to this intersection would result in a significant impact. The EIR concluded that implementation of **Mitigation Measure TRA-20, consisting of designing and constructing the improvement,** would reduce the impacts to a less-than-significant level because the intersection Level of Service could be mitigated back to "without project" conditions. Because the Gasser North development is required to comply with **Mitigation Measure TRA-20**, construction of Tulocay Village Apartment Homes would not result in any new or more severe impacts with respect to **Impact TRA-20** that were not previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-20 was imposed as COA 33 to the approval of the Master Plan, and must be revised for timing of the improvement.

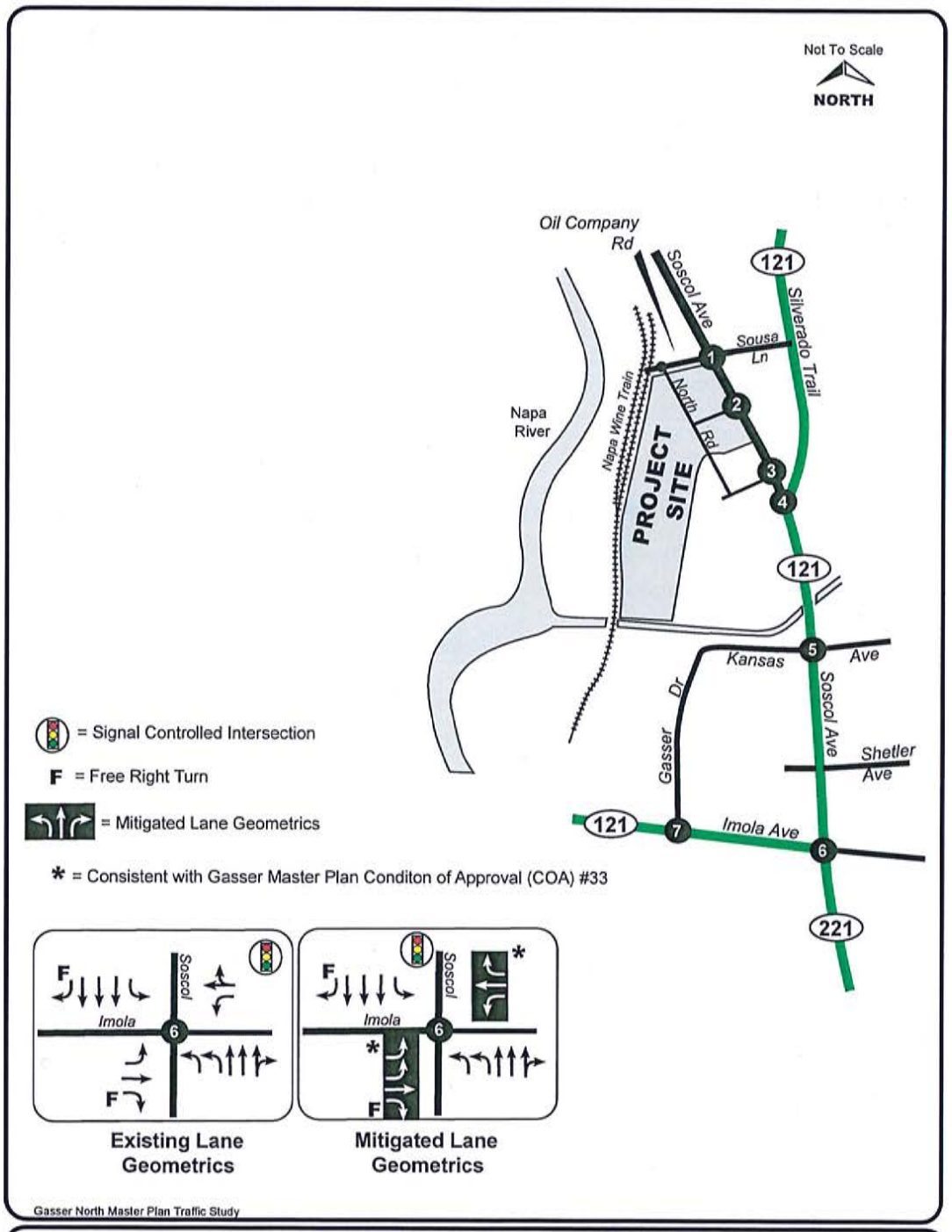

Figure 21
Year 2018 Mitigated Lane Geometrics with or without Gasser Drive Extension and Bridge (Applies to all With Project Scenarios)

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B. YEAR 2018 WITH BUILDOUT OF GASSER NORTH - WITHOUT GASSER DRIVE EXTENSION AND BRIDGE (see Figure 21)

Year 2018 with buildout of the Gasser North Master Plan Development – without Gasser Drive extension and bridge traffic volumes would result in a significant year 2018 August Thursday PM peak hour intersection level of service impact at one signalized intersection: Soscol Avenue/Imola Avenue. Mitigation would bring LOS operation back to "without project" levels for LOS.

Mitigation to "without project" Intersection Level of Service (see Table 17)

- **Soscol Avenue/Imola Avenue**

  1. Add an additional exclusive eastbound left turn lane, resulting one right, one through, and two left turn lanes.

  2. Add an exclusive westbound right turn lane, resulting in one left, one through and one right turn lane.

  Resultant August Thursday PM peak hour operation: LOS F-83.2 seconds, an improvement over the without Gasser North project LOS F-91.3 seconds.

  The 2006 Master Plan EIR found in **Impact TRA-20: Imola Avenue/Soscol Avenue** that the project volume contribution to this intersection would result in a significant impact. The EIR concluded that implementation of **Mitigation Measure TRA-20, consisting of designing and constructing the intersection improvement,** would reduce the impacts to a less-than-significant level because the intersection Level of Service could be mitigated back to "without project" conditions. Because Gasser North is required to comply with **Mitigation Measure TRA-20**, construction of Gasser North would not result in any new or more severe impacts with respect to **Impact TRA-20** than were previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-20 was imposed as COA 33 to the approval of the Master Plan, and must be revised for timing of the improvement.

The mitigation measures **previously adopted and imposed by the City of Napa** are shown in **Figure 21.**

C. YEAR 2018 WITH BUILDOUT OF GASSER NORTH - WITH GASSER DRIVE EXTENSION AND BRIDGE (see Figure 21)

Year 2018 buildout of Gasser North Master Plan Development – with Gasser Drive extension and bridge traffic volumes would result in a significant year 2020 PM peak hour intersection level of service impact at one signalized intersection: Soscol Avenue/Imola Avenue. Mitigation would bring LOS operation back to "without project" levels for LOS.

Mitigation to "without project" Intersection Level of Service (see Table 17)

- **Soscol Avenue/Imola Avenue**

  1. Add an additional exclusive eastbound left turn lane, resulting one right, one through, and two left turn lanes.

  2. Add an exclusive westbound right turn lane, resulting in one left, one through and one right turn lane.

  Resultant August Thursday PM peak hour operation: LOS F-84.6 seconds, an improvement over the "without Gasser North project" LOS F-91.3 seconds.

  The 2006 Master Plan EIR found in **Impact TRA-20: Imola Avenue/Soscol Avenue** that the project volume contribution to this intersection would result in a significant impact. The EIR concluded that implementation of **Mitigation Measure TRA-20, consisting of designing and constructing the intersection improvement,** would reduce the impacts to a less-than-significant level because the intersection Level of Service could be mitigated back to "without project" conditions. Because Gasser North is required to comply with **Mitigation Measure TRA-20**, construction of Gasser North would not result in any new or more severe impacts with respect to **Impact TRA-20** than were previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-20 was imposed as COA 33 to the approval of the Master Plan, and must be revised for timing of the improvement.

The mitigation measures previously adopted and imposed by the City of Napa are shown in Figure 21.

Table 17

MITIGATED INTERSECTION LEVEL OF SERVICE YEAR 2018

LOCATION	PM PEAK HOUR			
	Without Project	With 500 Apartments in Gasser North (w/o Bridge)	With Buildout Gasser North (w/o bridge)	With Buildout Gasser North (with bridge)
Soscol Avenue (S.R. 121)/Imola Ave. (Signal)	F-91.3 (1)	F-80.6 (1), (2)	F-83.2 (1), (2)	F-84.6 (1), (2)

(1) Signalized level of service – average vehicle control delay in seconds.
(2) Mitigated with an added EB Imola Avenue separate left turn lane and an added WB Imola Avenue separate right turn lane (resulting in eastbound two left turn lanes, one through lane and one right turn lane; and westbound one left turn lane, one through lane and one right turn lane)

Maximum 100 second cycle length at Soscol Ave./Imola Ave.

Year 2000 Highway Capacity Manual Analysis Methodology – Synchro software.
Source: Crane Transportation Group

D. YEAR 2020 WITH 500 APARTMENTS IN GASSER NORTH – WITHOUT GASSER DRIVE EXTENSION AND BRIDGE (see Figure 22)

Year 2020 With 500 Apartments, only, in Gasser North–without Gasser Drive extension and bridge traffic volumes would result in a significant PM peak hour intersection level of service impact at three signalized intersections: Soscol Avenue/Project Access, Soscol Avenue/Kansas Avenue and Soscol Avenue/Imola Avenue. Mitigation would bring LOS operation back to "without project" levels for LOS.

Mitigation to acceptable Intersection Level of Service (see Table 18)

- **Soscol Avenue/Project Driveway**

  1. Add an additional northbound left turn lane, resulting in two northbound left turn lanes and two northbound through lanes, with Mitigated Lane Geometrics as depicted on figure 22.

  Resultant PM peak hour operation with added left turn lane: LOS D-40.9 seconds, below mid-range LOSD, and consistent with City standards for intersection operation.

The 2006 Master Plan EIR found that intersection improvements were needed as part of signal relocation – the signal was moved to Project Driveway. The EIR concluded that implementation of **Mitigation Measure TRA-7,** consisting of intersection improvements, would require a study to determine specific improvements that would reduce the impacts to a less-than-significant level. The current study found that the intersection Level of Service could be mitigated to meet the City's standard of operation for this intersection (mid-range LOS D – 45.0 seconds control delay) by providing a second northbound left turn lane if the bridge is not built. Because Gasser North is required to comply with **Mitigation Measure TRA-7**, construction of Tulocay Village Apartment Homes would not result in any new or more severe impacts with respect to **Impact TRA-7** than were previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-7 was imposed as COA 27 to the approval of the Master Plan.

2. As an alternative to adding an additional northbound left turn lane on Soscol for the Soscol Avenue/Project Driveway intersection, extend Gasser Drive and construct the bridge over Tulocay Creek - see the "with bridge" results in Table 7, with intersection operation at an acceptable LOS D-41.6 in 2020 with Gasser North buildout, with eastbound project entrance as depicted on figure 22, and two westbound receiving lanes. Results would be further improved if Gasser North development is limited to 500 apartments.

- **Soscol Avenue/Kansas Avenue**

1. Add an additional northbound Soscol Avenue right turn lane, resulting in northbound one left lane, three through lanes and a separate right turn lane. Resultant August Thursday PM peak hour operation: LOS E – 66.9.

Alternatively,

2. Extend Gasser Drive and construct the bridge over Tulocay Creek - see the "with bridge" results in Table 7, with intersection operation at an acceptable LOS E-72.3 with Gasser North Buildout. With only 500 apartments in Gasser North, the LOS would be further improved.

- **Soscol Avenue/Imola Avenue**

1. Add an additional exclusive eastbound left turn lane, resulting one right, one through, and two left turn lanes.

2. Add an exclusive westbound right turn lane, resulting in one left, one through and one right turn lane.

Resultant PM peak hour operation: LOS F-132.2 seconds, an improvement over

the without Gasser North project LOS F- 143.9 seconds.

The 2006 Master Plan EIR found in **Impact TRA-20: Imola Avenue/Soscol Avenue** that the project volume contribution to this intersection would result in a significant impact. The EIR concluded that implementation of **Mitigation Measure TRA-20, consisting of designing and constructing the intersection improvement,** would reduce the impacts to a less-than-significant level because the intersection Level of Service could be mitigated back to "without project" conditions. Because Gasser North is required to comply with **Mitigation Measure TRA-20**, construction of Gasser North would not result in any new or more severe impacts with respect to **Impact TRA-20** than were previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-20 was imposed as COA 33 to the approval of the Master Plan, and must be revised for timing of the improvement.

The mitigation measures **previously adopted and imposed by the City of Napa** are shown in.

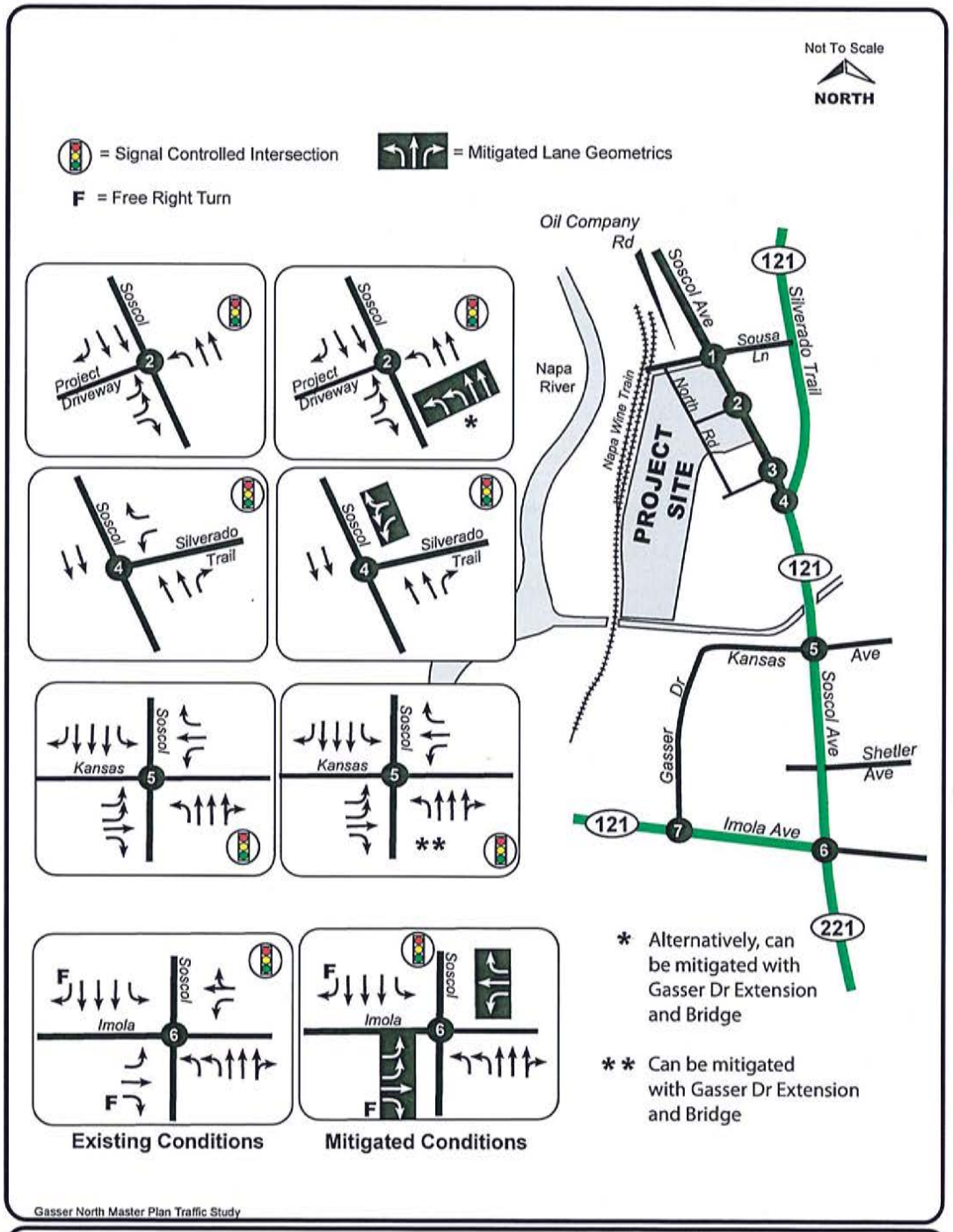

Figure 22
Year 2020 Mitigated Lane Geometrics

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E. YEAR 2020 WITH 500 APARTMENTS AND 72,000 SQ FT COMMERCIAL IN GASSER NORTH - WITHOUT GASSER DRIVE EXTENSION AND BRIDGE (see Figure 22)

Year 2020 with 500 apartments and 72,000 sq ft commercial in the Gasser North Master Plan Development – without Gasser Drive extension and bridge traffic volumes would result in a significant year 2020 PM peak hour intersection level of service impact at four signalized intersections: Soscol Avenue/Project Access, Soscol Avenue/ Silverado Trail, Soscol Avenue/Kansas Avenue and Soscol Avenue/Imola Avenue. Mitigation would bring LOS operation back to acceptable levels for LOS.

Mitigation to acceptable Intersection Level of Service (see Table 18)

- **Soscol Avenue/Project Driveway**

  1. Add an additional northbound left turn lane, resulting in two northbound left turn lanes and two northbound through lanes, with Lane Geometrics a depicted on figure 22.

  Resultant PM peak hour operation with added left turn lane: LOS D-41.3 seconds, below mid-range LOSD, and consistent with City standards for intersection operation.

  The 2006 Master Plan EIR found that intersection improvements were needed as part of signal relocation – the signal was moved to Project Driveway. The EIR concluded that implementation of **Mitigation Measure TRA-7,** consisting of intersection improvements, would require a study to determine specific improvements that would reduce the impacts to a less-than-significant level. The current study found that the intersection Level of Service could be mitigated to meet the City standard of operation for this intersection (mid-range LOS D – 45.0 seconds control delay) by providing a second northbound left turn lane if the bridge is not built. Because Gasser North is required to comply with **Mitigation Measure TRA-7**, construction would not result in any new or more severe impacts with respect to **Impact TRA-7** that were not previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-7 was imposed as COA 27 to the approval of the Master Plan.

  2. As an alternative to adding an additional northbound left turn lane to the Soscol Avenue/Project Driveway intersection, extend Gasser Drive and construct the bridge over Tulocay Creek - see the "with bridge" results in Table 7, with intersection operation at an acceptable LOS D-41.6 with Gasser North buildout, with eastbound project entrance as depicted on figure 22, and two westbound receiving lanes. Results would be further improved if Gasser North development is limited to 500 apartments and 72,000 sq.ft. commercial.

- **Soscol Avenue/ Silverado Trail**

  1. Add a westbound combined right/left turn lane, resulting in a westbound exclusive left[1] turn lane, and a combined left/right turn lane.

  Resultant PM peak hour operation: LOS C-34.5 seconds, an improvement over the without Gasser North project LOS F-94.2 seconds.

  The 2006 Master Plan EIR found in **Impact TRA-14: Soscol Avenue/Silverado Trail** that the project volume contribution to this intersection would result in a significant impact. The EIR concluded that implementation of **Mitigation Measure TRA-14,** consisting of intersection improvements, would require a study to determine specific improvements that would reduce the impacts to a less-than-significant level. The current study found that the intersection Level of Service could be mitigated back to "without project" conditions. Because Gasser North is required to comply with **Mitigation Measure TRA-14**, construction of Gasser North would not result in any new or more severe impacts with respect to **Impact TRA-14** that were not previously analyzed and disclosed in the Master Plan EIR.

- **Soscol Avenue/Kansas Avenue**

  1. Add an additional northbound Soscol Avenue right turn lane, resulting in northbound one left lane, three through lanes and a separate right turn lane. Resultant August Thursday PM peak hour operation: LOS E – 72.0.

  Alternatively,

  2. Extend Gasser Drive and construct the bridge over Tulocay Creek - see "with bridge" results in Table 7, with intersection operation at an acceptable LOS E-72.3 with Gasser North buildout. With only 500 apartments and 72,000 sq. ft. commercial in Gasser North, the LOS would be further improved.

- **Soscol Avenue/Imola Avenue**

  1. Add an additional exclusive eastbound left turn lane, resulting one right, one through, and two left turn lanes.

  2. Add an exclusive westbound right turn lane, resulting in one left, one through and one right turn lane.

  Resultant August Thursday PM peak hour operation: LOS F-134.3

seconds, an improvement over the without Gasser North project LOS F-143.9 seconds.

The 2006 Master Plan EIR found in **Impact TRA-20: Imola Avenue/Soscol Avenue** that the project volume contribution to this intersection would result in a significant impact. The EIR concluded that implementation of **Mitigation Measure TRA-20, consisting of designing and constructing the intersection improvement,** would reduce the impacts to a less-than-significant level because the intersection Level of Service could be mitigated back to "without project" conditions. Because Gasser North is required to comply with **Mitigation Measure TRA-20**, construction of Gasser North would not result in any new or more severe impacts with respect to **Impact TRA-20** than were previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-20 was imposed as COA 33 to the approval of the Master Plan, and must be revised for timing of the improvement.

The mitigation measures **previously adopted and imposed by the City of Napa** are shown in **Figure 22.**

F. YEAR 2020 WITH BUILDOUT OF GASSER NORTH - WITHOUT GASSER DRIVE EXTENSION AND BRIDGE (see Figure 22)

Year 2020 With Buildout of Gasser North Master Plan Development – Without Gasser Drive Extension and Bridge traffic volumes would result in a significant year 2020 August Thursday PM peak hour intersection level of service impact at three signalized intersections: Soscol Avenue/Silverado Trail, Soscol Avenue/Kansas Avenue and Soscol Avenue/Imola Avenue and the northbound Soscol Avenue left turn 95th percentile queue at the Project Driveway intersection exceeding the 250-foot storage lane by 25 feet [4]. Mitigation would not bring LOS operation back to "without project" levels for LOS at all intersections. Accommodating northbound Soscol Avenue queues would require signal timing adjustments or provision of increased storage for northbound Soscol Avenue left turning traffic at the Project Driveway (i.e., a second northbound left turn lane) or reducing traffic volumes due to the project, such as no construction of the Creekside component of Gasser North.

Mitigation to acceptable or without project" Intersection Level of Service (see Table 18)

- **Soscol Avenue/Project Driveway**

  1. Add an additional northbound left turn lane, resulting in two northbound left turn lanes and two northbound through lanes, with eastbound project entrance containing two eastbound left turn lanes and one eastbound right turn lane, as depicted on figure 22, and two westbound receiving lanes.

[4] The Synchro queue worksheets show that the 250-foot storage is actually exceeded by 3 feet, however, to present a conservative analysis all queue storage lengths have been rounded up to the nearest 25 feet.

Resultant PM peak hour operation with added left turn lane: LOS D-41.3 seconds, below mid-range LOSD, and consistent with City standards for intersection operation.

The 2006 Master Plan EIR found that intersection improvements were needed as part of signal relocation – the signal was moved to Project Driveway. The EIR concluded that implementation of **Mitigation Measure TRA-7,** consisting of intersection improvements, would require a study to determine specific improvements that would reduce the impacts to a less-than-significant level. The current study found that the intersection Level of Service could be mitigated to meet the City standard of operation for this intersection (mid-range LOS D – 45.0 seconds control delay) by providing a second northbound left turn lane if the bridge is not built. Because Gasser North is required to comply with **Mitigation Measure TRA-7**, construction would not result in any new or more severe impacts with respect to **Impact TRA-7** that were not previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-7 was imposed as COA 27 to the approval of the Master Plan.

2. As an alternative to adding an additional northbound left turn lane to the Soscol Avenue/Project Driveway intersection, extend Gasser Drive and construct the bridge over Tulocay Creek - see "with bridge" results in Table 7, with intersection operation at an acceptable LOS D-41.6 with Gasser North buildout, with eastbound project entrance as depicted on figure 22, and two westbound receiving lanes.

- **Soscol Avenue/ Silverado Trail**

1. Add a westbound combined right/left turn lane, resulting in a westbound exclusive left turn lane, and a combined left/right turn lane.

Resultant PM peak hour operation: LOS D-38.0 seconds, an improvement over the without Gasser North project LOS F-94.2 seconds.

The 2006 Master Plan EIR found in **Impact TRA-14: Soscol Avenue/Silverado Trail** that the project volume contribution to this intersection would result in a significant impact. The EIR concluded that implementation of **Mitigation Measure TRA-14,** consisting of intersection improvements, would require a study to determine specific improvements that would reduce the impacts to a less-than-significant level. The current study found that the intersection Level of Service could be mitigated back to "without project" conditions. Because Gasser North is required to comply with **Mitigation Measure TRA-14**, construction of Gasser North would not result in any new or more severe impacts with respect to

Impact TRA-14 that were not previously analyzed and disclosed in the Master Plan EIR.

- **Soscol Avenue/Kansas Avenue**

  1. Extend Gasser Drive and construct the bridge over Tulocay Creek - see "with bridge" results in Table 7, with intersection operation at an acceptable LOS E-72.3 with Gasser North buildout.

- **Soscol Avenue/Imola Avenue**

  1. Add an additional exclusive eastbound left turn lane, resulting one right, one through, and two left turn lanes.

  2. Add an exclusive westbound right turn lane, resulting in one left, one through and one right turn lane.

  Resultant August Thursday PM peak hour operation: LOS F-142.4 seconds, an improvement over the "without Gasser North project" LOS F-143.9 seconds.

  Resultant PM peak hour operation: LOS F-142.4 seconds, an improvement over the without Gasser North project LOS F-143.9 seconds.

  The 2006 Master Plan EIR found in **Impact TRA-20: Imola Avenue/Soscol Avenue** that the project volume contribution to this intersection would result in a significant impact. The EIR concluded that implementation of **Mitigation Measure TRA-20, consisting of designing and constructing the intersection improvement,** would reduce the impacts to a less-than-significant level because the intersection Level of Service could be mitigated back to "without project" conditions. Because Gasser North is required to comply with **Mitigation Measure TRA-20**, construction of Gasser North would not result in any new or more severe impacts with respect to **Impact TRA-20** than were previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-20 was imposed as COA 33 to the approval of the Master Plan, and must be revised for timing of the improvement.

The mitigation measures **previously adopted and imposed by the City of Napa** are shown in **Figure 22.**

G. YEAR 2020 WITH BUILDOUT OF GASSER NORTH - WITH GASSER DRIVE EXTENSION AND BRIDGE (see Figure 23)

Year 2020 with buildout of Gasser North Master Plan Development – with Gasser Drive extension and bridge traffic volumes would result in a significant year 2020 August Thursday PM peak hour intersection level of service impact at two signalized intersections: Soscol Avenue/Silverado Trail and Soscol Avenue/Imola Avenue. Mitigation would bring LOS operation back to "without project" levels for LOS.

Mitigation to "without project" Intersection Level of Service (see Table 18)

- **Soscol Avenue/ Silverado Trail**

  1. Add a westbound combined right/left turn lane, resulting in a westbound exclusive left turn lane, and a combined left/right turn lane.

  Resultant PM peak hour operation: LOS C-27.3 seconds, an improvement over the without Gasser North project LOS F-94.2 seconds.

  The 2006 Master Plan EIR found in **Impact TRA-14: Soscol Avenue/Silverado Trail** that the project volume contribution to this intersection would result in a significant impact. The EIR concluded that implementation of **Mitigation Measure TRA-14,** consisting of intersection improvements, would require a study to determine specific improvements that would reduce the impacts to a less-than-significant level. The current study found that the intersection Level of Service could be mitigated back to "without project" conditions. Because Gasser North is required to comply with **Mitigation Measure TRA-14**, construction of Gasser North would not result in any new or more severe impacts with respect to **Impact TRA-14** that were not previously analyzed and disclosed in the Master Plan EIR.

- **Soscol Avenue/Imola Avenue**

  1. Add an additional exclusive eastbound left turn lane, resulting one right, one through, and two left turn lanes.

  2. Add an exclusive westbound right turn lane, resulting in one left, one through and one right turn lane.

  Resultant August Thursday PM peak hour operation: LOS F-138.6 seconds, an improvement over the "without Gasser North project" LOS F-143.9 seconds.

The 2006 Master Plan EIR found in **Impact TRA-20: Imola Avenue/Soscol Avenue** that the project volume contribution to this intersection would result in a significant impact. The EIR concluded that implementation of **Mitigation Measure TRA-20, consisting of designing and constructing the intersection improvement,** would reduce the impacts to a less-than-significant level because the intersection Level of Service could be mitigated back to "without project" conditions. Because Gasser North is required to comply with **Mitigation Measure TRA-20**, construction of Gasser North would not result in any new or more severe impacts with respect to **Impact TRA-20** than were previously analyzed and disclosed in the Master Plan EIR. Mitigation Measure TRA-20 was imposed as COA 33 to the approval of the Master Plan, and must be revised for timing of the improvement.

The mitigation measures **previously adopted and imposed by the City of Napa** are shown in **Figure 23.**

Table 18

MITIGATED INTERSECTION LEVEL OF SERVICE YEAR 2020

LOCATION	PM PEAK HOUR				
	Without Project	With 500 Apartments in Gasser North (w/o bridge)	With 500 Apts & 72,000 sq ft Commercial in Gasser North (w/o bridge)	With Buildout of Gasser North (w/o bridge)	With Buildout of Gasser North (with bridge)
Soscol Avenue (S.R. 121)/Project Driveway (Signal)	NA	D-40.9 (1), (2)	D-41.3 (1), (2)	D-43.4 (1), (2)	NA
Soscol Avenue (S.R. 121)/Silverado Trail (Signal)	F-94.2 (1)	F-92.9 (1), (7)	C-34.5 (1), (3)	D-38.0 (1), (3)	C-27.3 (1), (3)
Soscol Avenue (S.R. 121)/Kansas Ave. (Signal)	E-73.3 (1)	E-66.9 (1), (4)	E-72.0 (1), (4)	E-72.3 (1), (5)	E-72.3 (1)
Soscol Avenue (S.R. 121)/Imola Ave. (Signal)	F-143.9 (1)	F-132.2 (1), (6)	F-134.3 (1), (6)	F-142.4 (1), (6)	F-138.6 (1), (6)

(1) Signalized level of service – average vehicle control delay in seconds.
(2) Mitigated with an added NB Soscol Avenue left turn lane (resulting in northbound 2 left turn lanes, and two through lanes)
(3) Mitigated with an added WB Silverado Trail combined left/right (resulting in westbound 1left turn lane, and a combined left/right turn lane)
(4) Mitigated with an added NB Soscol Avenue separate right turn lane (resulting in northbound one left lane, three through lanes, and a separate right turn lane)

(5) Mitigated with Gasser Drive extension and bridge over Tulocay Creek.

(6) Mitigated with an added EB Imola Avenue separate left turn lane and an added WB Imola Avenue separate right turn lane (resulting in eastbound two left turn lanes, one through lane and one right turn lane; and westbound one left turn lane, one through lane and one right turn lane)

(7) No mitigation is needed for this intersection. In this instance, control delay actually *decreases* rather than increasing due to the addition of project traffic. This is due to sufficient southbound green signal cycle time to absorb the added southbound traffic without added delay. The averaged result for the intersection results in a slight decrease in control delay, even with added traffic. This occasionally occurs with Highway Capacity Manual Analysis Methodology – Synchro software.

Maximum 90 second cycle length Soscol Ave./Project Access
Maximum 90 second cycle length Soscol Ave./Silverado Trail
Maximum 90 second cycle length Soscol Ave./Kansas Ave.
Maximum 100 second cycle length at Soscol Ave./Imola Ave.

Year 2000 Highway Capacity Manual Analysis Methodology – Synchro software.
Source: Crane Transportation Group

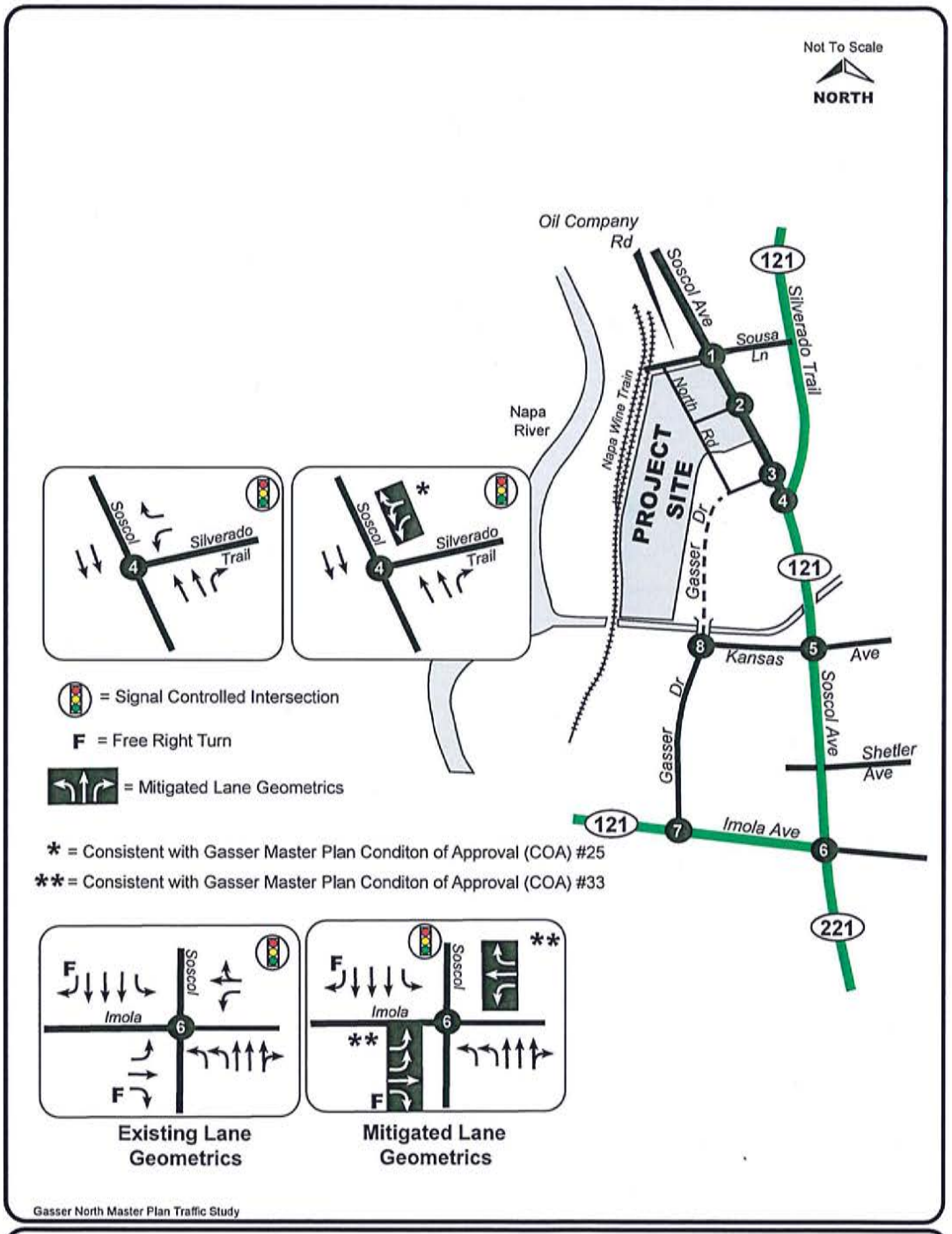
Table 19 provides a summary of mitigation measures addressing significant impacts identified in this study, with reference to intersection improvements required by the 2006 Gasser Master Plan Final EIR and Conditions of Approval.

IX. CONCLUSION

At full buildout of the Gasser North Master Plan project the following mitigation measures are needed to mitigate project impacts to a less than significant level:

- Gasser Drive extension and bridge,
- an additional exclusive eastbound left turn lane at the Imola Avenue/Soscol Avenue intersection,
- an additional exclusive westbound left turn lane at the Imola Avenue/Soscol Avenue intersection, and
- fair share payment toward an additional westbound combined right/left turn lane at the Silverado Trail/Soscol Avenue intersection.

Timing for these improvements is established by the project component phasing analyzed in this report.



CRANE TRANSPORTATION GROUP

Figure 23
Year 2020 Mitigated Lane Geometrics with Gasser Drive Extension and Bridge (Applies to all With Project Scenarios)

TABLE 19 (page 1 of 4)
YEAR 2018 AND 2020 MITIGATION MEASURES REQUIRED BY CONDITIONS OF APPROVAL (COA) TO THE GASSER MASTER PLAN BASED UPON THE 2006 GASSER MASTER PLAN FINAL EIR*
Intersection Level of Service Results are Noted with Implemented Mitigation Measures per Previously-imposed Conditions of Approval (COA) to the Gasser Master Plan

Intersec-tion	2014 W/O Project Level of Service	2018 W/O Project Level of Service	2020 W/O Project Level of Service	Year 2014 500 Apts Only Without Bridge	Year 2018 500 Apts Only Without Bridge	Year 2018 Full Buildout Without Bridge	Year 2020 500 Apts Only Without Bridge	Year 2020 500 Apts +72,000 sq. ft. Commer-cial Without Bridge	Year 2020 Full Buildout, Without Bridge	Year 2018 Full Buildout, With Bridge	Year 2020 Full Buildout With Bridge	Gasser Master Plan Conditions of Approval	Change to COA's No New Mitigations
Soscol Ave/ Oil Co Rd-Sousa Lane	LOS F-221/E-36.3 (1)	LOS F **/ F-237 (1)	LOS F **/ F ** (1)	Gasser North development assumes unsignalized, with EB and WB rt. turn in/ rt. turn out No mitigation needed LOS C-15.9/B-11.6 (2)	Gasser North development assumes unsignalized, with EB and WB rt. turn in/ rt. turn out No mitigation needed LOS C-20.5/B-11.6 (2)	Gasser North developmen t assumes unsignalized with EB and WB rt. turn in/ rt. turn out No mitigation needed LOS C-21.8/B-13.1 (2)	Gasser North development assumes unsignalized with EB and WB rt. turn in/ rt. turn out No mitigation needed LOS C-24.9/B-11.9 (2)	Gasser North develop ment assumes unsignali zed with EB and WB rt. turn in/ rt. turn out No mitigation needed LOS D-26.5/ B-11.8 (2)	Gasser North developme nt assumes unsignalize d with EB and WB rt. turn in/ rt. turn out No mitigation needed LOS D-27.0/ B-11.9 (2)	Gasser North development assumes unsignalized with EB and WB rt. turn in/ rt. turn out No mitigation needed LOS C-22.1/C-15.4 (2)	Gasser North development assumes unsignalized with EB and WB rt. turn in/ rt. turn out No mitigation needed LOS C-26.6/ C-17.3 (2)	TRA- 7 COA 27 & 28 imposed intersection improvements as part of signal relocation -- moved from Oil Co. Rd – Sousa Lane to Project Driveway.	COA 28

(1) Unsignalized, with EB & WB all turns allowed; NB & SB one separate left, one separate through and a combined through-right
(2) Unsignalized, with EB & WB: right turn in, right turn out; NB & SB one separate left, one separate through and a combined through-right

TABLE 19 (page 2 of 4)
YEAR 2018 AND 2020 MITIGATION MEASURES REQUIRED BY CONDITIONS OF APPROVAL (COA) TO THE GASSER MASTER PLAN BASED UPON THE 2006 GASSER MASTER PLAN FINAL EIR*
Intersection Level of Service Results are Noted with Implemented Mitigation Measures per Previously-imposed Conditions of Approval (COA) to the Gasser Master Plan

Intersec-tion	2014 W/O Project Level of Service	2018 W/O Project Level of Service	2020 W/O Project Level of Service	Year 2014 500 Apts Only Without Bridge	Year 2018 500 Apts Only Without Bridge	Year 2018 Full Buildout Without Bridge	Year 2020 500 Apts Only Without Bridge	Year 2020 500 Apts +72,000 sq. ft. Commer-cial Without Bridge	Year 2020 Buildout, Without Bridge	Year 2018 Buildout, With Bridge	Year 2020 Buildout With Bridge	Gasser Master Plan Conditions of Approval	Change to COA's No New Mitigations
Soscol Ave/ Project Driveway	NA	NA	NA	Installation of signal (3) LOS B-15.9	Installation of signal (3) LOS B-19.1	Installation of signal (3) LOS C-31.4	Installation of signal LOS at mid-range LOS D requires a second NB left if the bridge is not built. (4) LOS D 40.9	Installation of signal LOS at mid-range LOS D requires a second NB left if the bridge is not built (4) LOS D-41.3	Installation of signal; LOS at mid-range LOS D requires a second NB left if the bridge is not built. (4) LOS D-43.4	Installation of signal (3) LOS C-23.2	Installation of signal (3) LOS D-41.6	TRA- 7 COA 27 imposed intersection improvements as part of signal relocation -- moved to Project Driveway.	COA 27
Soscol Ave/ Gasser Drive	NA	NA	NA	LOS A-9.9	LOS B-12.2	LOS B-12.7	LOS B-12.1	LOS B-12.0	LOS B-12.8	Add SB dedicated right LOS B-11.6	Add SB dedicated right LOS B-12.0	TRA-14 & 29 COA 24 & 25 required ROW dedications and fair share contributions	COA 24

TABLE 19 (page 3 of 4)

YEAR 2018 AND 2020 MITIGATION MEASURES REQUIRED BY CONDITIONS OF APPROVAL (COA) TO THE GASSER MASTER PLAN BASED UPON THE 2006 GASSER MASTER PLAN FINAL EIR*

Intersection Level of Service Results are Noted with Implemented Mitigation Measures per Previously-imposed Conditions of Approval (COA) to the Gasser Master Plan

Intersect-ion	2014 w/o Project Level of Service	2018 w/o Project Level of Service	2020 w/o Project Level of Service	Year 2014 500 Apartments Only Without Bridge	Year 2018 500 Apartments Only Without Bridge	Year 2018 Full Buildout Without Bridge	Year 2020 500 Apartments Only Without Bridge	Year 2020 500 Apts plus 72,000 sq. ft. Commer. Without Bridge	Year 2020 Full Buildout, Without Bridge	Year 2018 Full Buildout, With Bridge	Year 2020 Full Buildout With Bridge	Gasser Master Plan Conditions of Approval	Change to COA's No New Mitigations
Soscol Ave/ Silverado Trail	LOS B-20.0	LOS D-45.1	LOS F-94.2	LOS C-26.3	LOS D-50.5	LOS E-60.8	LOS F-92.9	Contribute to second WB Left on Silverado Trail LOS C-34.5	Contribute to second WB Left on Silverado Trail LOS D-38.0	LOS D-45.4	Contribute to second WB Left on Silverado Trail LOS C-27.3	TRA-14 COA 25 -- Fair Share Contrib. to Silverado/ Soscol Improvements	COA 25
Soscol Ave/ Kansas	LOS D-46.7	LOS D-45.4	LOS E-73.3	LOS D-52.2	LOS D-48.5	LOS D-51.9	Provide Gasser Drive Ext. & Bridge	Provide Gasser Drive Ext. & Bridge	Provide Gasser Dr. Exr. & Bridge LOS E-72.3	LOS D-47.2	LOS E-72.3	TRA-18 COA 24 COA 31 -- Left turn lane added to EB Kansas Ave.	COA 24 and 31

TABLE 19 (page 4 of 4)

YEAR 2018 AND 2020 MITIGATION MEASURES REQUIRED BY CONDITIONS OF APPROVAL (COA) TO THE GASSER MASTER PLAN BASED UPON THE 2006 GASSER MASTER PLAN FINAL EIR*

Intersection Level of Service Results are Noted with Implemented Mitigation Measures per Previously-imposed Conditions of Approval (COA) to the Gasser Master Plan

Intersect-ion	2014 w/o Project Level of Service	2018 w/o Project Level of Service	2020 w/o Project Level of Service	Year 2014 500 Apartments Only Without Bridge	Year 2018 500 Apartments Only Without Bridge	Year 2018 Full Buildout Without Bridge	Year 2020 500 Apartments Only Without Bridge	Year 2020 500 Apts plus 72,000 sq. ft. Commer. Without Bridge	Year 2020 Full Buildout, Without Bridge	Year 2018 Full Buildout, With Bridge	Year 2020 Full Buildout With Bridge	Gasser Master Plan Conditions of Approval	Change to COA's No New Mitigations
Soscol Ave/ Imola Ave	LOS E-59.3	LOS F-91.3	LOS F-143.9	LOS E-64.6	EB and WB Imola Improvement Needed LOS F-80.6	EB & WB Imola Improvement Needed LOS F-83.2	EB & WB Imola Improvement Needed LOS F-132.2	EB & WB Imola Improvement Needed LOS F-134.3	EB & WB Imola Improvement Needed LOS F-142.4	EB & WB Imola Improvement Needed LOS F-84.6	EB & WB Imola Improvement Needed LOS F-138.6	TRA—20 COA 33 Requires EB and WB Improvements	COA 33
Imola Ave/ Gasser Drive/	LOS B- 16.3	LOS B-17.8	LOS C-20.0	Optimize Signal LOS B-17.1.	Optimize Signal LOS B-19.4	Optimize Signal LOS C-21.3	Optimize Signal LOS C-23.0	Optimize Signal LOS C – 25.0	Optimize Signal LOS C-26.0	Optimize Signal LOS C-23.1	Optimize Signal LOS C-25.2	COA 9	.
Kansas Ave/ Gasser Drive/	NA	NA	NA	NA	NA	NA	NA	NA	NA	Signalize LOS C-30.1	Signalize LOS D-40.1	TRA-COA 24 anticipated possible signalization. Gasser obligated for fair share.	COA 24

*Mitigation for each significant impact identified in this report was incorporated into the previously-imposed Conditions of Approval to the Gasser Master Plan.

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APPENDIX

2014 LEVEL OF SERVICE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	0	4	3	1	41	3	1081	22	58	1200	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	1.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	9	0	4	3	1	46	3	1201	24	64	1333	13
Pedestrians		20			20			20			20	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								543				
pX, platoon unblocked												
vC, conflicting volume	2162	2741	713	2060	2736	653	1367			1246		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2162	2741	713	2060	2736	653	1367			1246		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	53	100	99	88	93	89	99			88		
cM capacity (veh/h)	19	17	362	27	17	396	490			545		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	13	50	3	801	425	64	889	458
Volume Left	9	3	3	0	0	64	0	0
Volume Right	4	46	0	0	24	0	0	13
cSH	28	164	490	1700	1700	545	1700	1700
Volume to Capacity	0.48	0.31	0.01	0.47	0.25	0.12	0.52	0.27
Queue Length 95th (ft)	39	32	1	0	0	10	0	0
Control Delay (s)	220.8	36.3	12.4	0.0	0.0	12.5	0.0	0.0
Lane LOS	F	E	B			B		
Approach Delay (s)	220.8	36.3	0.0			0.6		
Approach LOS	F	E						

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	578	20	1042	680	0	1200
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	16	12	12	12	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	1.00	0.95	1.00		0.95
Frpb, ped/bikes	1.00	0.95	1.00	0.97		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	0.85	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1900	1432	3353	1455		3353
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1900	1432	3353	1455		3353
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	596	21	1074	701	0	1237
RTOR Reduction (vph)	0	13	0	0	0	0
Lane Group Flow (vph)	596	8	1074	701	0	1237
Confl. Peds. (#/hr)	20	20		20	20	
Turn Type	Prot	Perm	NA	Free		NA
Protected Phases	8		2			6
Permitted Phases		8		Free		
Actuated Green, G (s)	34.0	34.0	48.0	90.0		48.0
Effective Green, g (s)	34.0	34.0	48.0	90.0		48.0
Actuated g/C Ratio	0.38	0.38	0.53	1.00		0.53
Clearance Time (s)	4.0	4.0	4.0			4.0
Lane Grp Cap (vph)	717	540	1788	1455		1788
v/s Ratio Prot	c0.31		0.32			c0.37
v/s Ratio Perm		0.01		0.48		
v/c Ratio	0.83	0.01	0.60	0.48		0.69
Uniform Delay, d1	25.4	17.5	14.4	0.0		15.5
Progression Factor	1.00	1.00	1.78	1.00		1.00
Incremental Delay, d2	10.8	0.0	0.7	0.5		2.2
Delay (s)	36.2	17.6	26.3	0.5		17.8
Level of Service	D	B	C	A		B
Approach Delay (s)	35.6		16.1			17.8
Approach LOS	D		B			B

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	424	109	15	77	102	134	29	1266	60	175	1151	444
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.92	1.00	1.00	0.92
Flpb, ped/bikes	1.00	1.00	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	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1593	1628	1432	1676	1765	1432	1676	3353	1387	1676	3353	1387
Flt Permitted	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1593	1628	1432	1676	1765	1432	1676	3353	1387	1676	3353	1387
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	437	112	15	79	105	138	30	1305	62	180	1187	458
RTOR Reduction (vph)	0	0	12	0	0	121	0	0	37	0	0	265
Lane Group Flow (vph)	271	278	3	79	105	17	30	1305	25	180	1187	193
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	19.0	19.0	19.0	11.0	11.0	11.0	6.0	37.0	37.0	7.0	38.0	38.0
Effective Green, g (s)	19.0	19.0	19.0	11.0	11.0	11.0	6.0	37.0	37.0	7.0	38.0	38.0
Actuated g/C Ratio	0.21	0.21	0.21	0.12	0.12	0.12	0.07	0.41	0.41	0.08	0.42	0.42
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	336	343	302	204	215	175	111	1378	570	130	1415	585
v/s Ratio Prot	0.17	c0.17		0.05	c0.06		0.02	c0.39		c0.11	0.35	
v/s Ratio Perm			0.00			0.01			0.02			0.14
v/c Ratio	0.81	0.81	0.01	0.39	0.49	0.10	0.27	0.95	0.04	1.38	0.84	0.33
Uniform Delay, d1	33.8	33.8	28.1	36.4	36.9	35.1	39.9	25.6	15.9	41.5	23.3	17.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.03	1.05	2.12
Incremental Delay, d2	18.4	18.5	0.1	5.5	7.7	1.1	5.9	14.5	0.1	201.3	4.1	1.0
Delay (s)	52.2	52.2	28.1	41.9	44.6	36.2	45.8	40.1	16.0	244.1	28.5	38.0
Level of Service	D	D	C	D	D	D	D	D	B	F	C	D
Approach Delay (s)		51.6			40.3			39.1			52.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	335	477	120	324	60	742	1160	190	70	1060	220
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
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	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	0.99		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	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1676	1765	1478	1676	1715		3252	3259		1676	3353	1478
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1676	1765	1478	1676	1715		3252	3259		1676	3353	1478
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	189	342	487	122	331	61	757	1184	194	71	1082	224
RTOR Reduction (vph)	0	0	0	0	7	0	0	13	0	0	0	0
Lane Group Flow (vph)	189	342	487	122	385	0	757	1365	0	71	1082	224
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Prot	NA	Free	Prot	NA		Prot	NA		Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free									Free
Actuated Green, G (s)	10.0	20.0	100.0	8.0	18.0		24.0	51.0		5.0	32.0	100.0
Effective Green, g (s)	10.0	20.0	100.0	8.0	18.0		24.0	51.0		5.0	32.0	100.0
Actuated g/C Ratio	0.10	0.20	1.00	0.08	0.18		0.24	0.51		0.05	0.32	1.00
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	167	353	1478	134	308		780	1662		83	1072	1478
v/s Ratio Prot	c0.11	0.19		0.07	c0.22		c0.23	0.42		0.04	c0.32	
v/s Ratio Perm			0.33									0.15
v/c Ratio	1.13	0.97	0.33	0.91	1.25		0.97	0.82		0.86	1.01	0.15
Uniform Delay, d1	45.0	39.7	0.0	45.6	41.0		37.6	20.7		47.1	34.0	0.0
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	109.4	40.7	0.6	56.7	137.1		25.8	4.7		64.5	29.8	0.2
Delay (s)	154.4	80.3	0.6	102.4	178.1		63.4	25.4		111.6	63.8	0.2
Level of Service	F	F	A	F	F		E	C		F	E	A
Approach Delay (s)		56.0			160.2			38.9			55.9	
Approach LOS		E			F			D			E	

Intersection Summary

HCM 2000 Control Delay	59.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	354	1174	1443	33	48	466
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.97	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3252	3353	3342		1676	2640
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3252	3353	3342		1676	2640
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	369	1223	1503	34	50	485
RTOR Reduction (vph)	0	0	2	0	0	33
Lane Group Flow (vph)	369	1223	1535	0	50	452
Confl. Peds. (#/hr)						
Turn Type	Prot	NA	NA		Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases						6
Actuated Green, G (s)	13.0	58.0	41.0		9.0	22.0
Effective Green, g (s)	13.0	58.0	41.0		9.0	22.0
Actuated g/C Ratio	0.17	0.77	0.55		0.12	0.29
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	563	2592	1826		201	915
v/s Ratio Prot	c0.11	0.36	c0.46		0.03	c0.09
v/s Ratio Perm						0.09
v/c Ratio	0.66	0.47	0.84		0.25	0.49
Uniform Delay, d1	28.9	3.0	14.3		29.9	21.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.9	0.6	4.9		2.9	1.9
Delay (s)	34.8	3.7	19.1		32.9	23.8
Level of Service	C	A	B		C	C
Approach Delay (s)		10.9	19.1		24.7	
Approach LOS		B	B		C	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

2014 Weekday with 500 apartments in Gasser North
1: Soscol Ave & Oil Company Rd/Sousa Ln

30/07/2015

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	6	0	0	41	5	1118	29	58	1258	33
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	1.00	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	7	0	0	46	6	1242	32	64	1398	37
Pedestrians		20			20			20			20	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								543				
pX, platoon unblocked	0.86	0.86		0.86	0.86	0.86				0.86		
vC, conflicting volume	2263	2871	757	2144	2873	677	1454			1294		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2138	2849	757	1999	2851	285	1454			1006		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	98	100	100	92	99			89		
cM capacity (veh/h)	19	12	338	25	12	589	453			575		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	7	46	6	828	446	64	932	503
Volume Left	0	0	6	0	0	64	0	0
Volume Right	7	46	0	0	32	0	0	37
cSH	338	589	453	1700	1700	575	1700	1700
Volume to Capacity	0.02	0.08	0.01	0.49	0.26	0.11	0.55	0.30
Queue Length 95th (ft)	2	7	1	0	0	10	0	0
Control Delay (s)	15.9	11.6	13.0	0.0	0.0	12.0	0.0	0.0
Lane LOS	C	B	B			B		
Approach Delay (s)	15.9	11.6	0.1			0.5		
Approach LOS	C	B						

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

2014 Weekday with 500 apartments in Gasser North

2: Soscol Ave & Project ~~Entrance~~ Driveway

29/07/2015

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	68	98	144	1083	1195	72
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	0.95	1.00	1.00	1.00	0.92
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3252	1432	1676	3353	3353	1387
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3252	1432	1676	3353	3353	1387
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	74	107	157	1177	1299	78
RTOR Reduction (vph)	0	88	0	0	0	31
Lane Group Flow (vph)	74	19	157	1177	1299	47
Confl. Peds. (#/hr)	20	20	20			20
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	16.0	16.0	16.0	66.0	46.0	46.0
Effective Green, g (s)	16.0	16.0	16.0	66.0	46.0	46.0
Actuated g/C Ratio	0.18	0.18	0.18	0.73	0.51	0.51
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	578	254	297	2458	1713	708
v/s Ratio Prot	c0.02		c0.09	0.35	c0.39	
v/s Ratio Perm		0.01				0.03
v/c Ratio	0.13	0.07	0.53	0.48	0.76	0.07
Uniform Delay, d1	31.1	30.8	33.6	4.9	17.6	11.1
Progression Factor	1.00	1.00	1.48	0.55	1.00	1.00
Incremental Delay, d2	0.5	0.6	5.3	0.5	3.2	0.2
Delay (s)	31.6	31.4	54.9	3.2	20.8	11.3
Level of Service	C	C	D	A	C	B
Approach Delay (s)	31.5			9.3	20.2	
Approach LOS	C			A	C	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	5	0	1227	1287	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	0	1334	1399	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)				401	665	
pX, platoon unblocked	0.81	0.68	0.68			
vC, conflicting volume	2069	703	1405			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	413	0	665			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	462	741	628			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	5	667	667	933	473
Volume Left	0	0	0	0	0
Volume Right	5	0	0	0	7
cSH	741	1700	1700	1700	1700
Volume to Capacity	0.01	0.39	0.39	0.55	0.28
Queue Length 95th (ft)	1	0	0	0	0
Control Delay (s)	9.9	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	9.9	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	578	25	1159	680	0	1273
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	16	12	12	12	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	1.00	0.95	1.00		0.95
Frpb, ped/bikes	1.00	0.95	1.00	0.97		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	0.85	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1900	1432	3353	1455		3353
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1900	1432	3353	1455		3353
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	596	26	1195	701	0	1312
RTOR Reduction (vph)	0	16	0	0	0	0
Lane Group Flow (vph)	596	10	1195	701	0	1312
Confl. Peds. (#/hr)	20	20		20	20	
Turn Type	Prot	Perm	NA	Free		NA
Protected Phases	8		2			6
Permitted Phases		8		Free		
Actuated Green, G (s)	34.0	34.0	48.0	90.0		48.0
Effective Green, g (s)	34.0	34.0	48.0	90.0		48.0
Actuated g/C Ratio	0.38	0.38	0.53	1.00		0.53
Clearance Time (s)	4.0	4.0	4.0			4.0
Lane Grp Cap (vph)	717	540	1788	1455		1788
v/s Ratio Prot	c0.31		0.36			c0.39
v/s Ratio Perm		0.01		0.48		
v/c Ratio	0.83	0.02	0.67	0.48		0.73
Uniform Delay, d1	25.4	17.5	15.2	0.0		16.1
Progression Factor	1.00	1.00	1.74	1.00		2.05
Incremental Delay, d2	10.8	0.1	0.7	0.4		1.8
Delay (s)	36.2	17.6	27.2	0.4		34.9
Level of Service	D	B	C	A		C
Approach Delay (s)	35.4		17.3			34.9
Approach LOS	D		B			C

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	470	109	15	77	102	138	29	1333	60	177	1193	474
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.92	1.00	1.00	0.92
Flpb, ped/bikes	1.00	1.00	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	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1593	1625	1432	1676	1765	1432	1676	3353	1387	1676	3353	1387
Flt Permitted	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1593	1625	1432	1676	1765	1432	1676	3353	1387	1676	3353	1387
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	485	112	15	79	105	142	30	1374	62	182	1230	489
RTOR Reduction (vph)	0	0	12	0	0	125	0	0	37	0	0	283
Lane Group Flow (vph)	296	301	3	79	105	17	30	1374	25	182	1230	206
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	19.0	19.0	19.0	11.0	11.0	11.0	6.0	37.0	37.0	7.0	38.0	38.0
Effective Green, g (s)	19.0	19.0	19.0	11.0	11.0	11.0	6.0	37.0	37.0	7.0	38.0	38.0
Actuated g/C Ratio	0.21	0.21	0.21	0.12	0.12	0.12	0.07	0.41	0.41	0.08	0.42	0.42
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	336	343	302	204	215	175	111	1378	570	130	1415	585
v/s Ratio Prot	c0.19	0.19		0.05	c0.06		0.02	c0.41		c0.11	0.37	
v/s Ratio Perm			0.00			0.01			0.02			0.15
v/c Ratio	0.88	0.88	0.01	0.39	0.49	0.10	0.27	1.00	0.04	1.40	0.87	0.35
Uniform Delay, d1	34.4	34.4	28.1	36.4	36.9	35.1	39.9	26.4	15.9	41.5	23.7	17.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.03	1.08	2.39
Incremental Delay, d2	26.5	25.7	0.1	5.5	7.7	1.1	5.9	23.6	0.1	206.3	4.9	1.0
Delay (s)	60.9	60.0	28.1	41.9	44.6	36.2	45.8	50.0	16.0	248.9	30.5	43.3
Level of Service	E	E	C	D	D	D	D	D	B	F	C	D
Approach Delay (s)		59.7			40.3			48.5			54.7	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	52.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	223	335	477	120	324	62	742	1180	190	71	1070	242
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
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	1.00	1.00	1.00	1.00	1.00		0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	0.99		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	0.98		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1676	1765	1478	1676	1714		3252	3260		1676	3353	1478
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1676	1765	1478	1676	1714		3252	3260		1676	3353	1478
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	228	342	487	122	331	63	757	1204	194	72	1092	247
RTOR Reduction (vph)	0	0	0	0	7	0	0	13	0	0	0	0
Lane Group Flow (vph)	228	342	487	122	387	0	757	1385	0	72	1092	247
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Prot	NA	Free	Prot	NA		Prot	NA		Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free									Free
Actuated Green, G (s)	10.0	20.0	100.0	8.0	18.0		24.0	51.0		5.0	32.0	100.0
Effective Green, g (s)	10.0	20.0	100.0	8.0	18.0		24.0	51.0		5.0	32.0	100.0
Actuated g/C Ratio	0.10	0.20	1.00	0.08	0.18		0.24	0.51		0.05	0.32	1.00
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	167	353	1478	134	308		780	1662		83	1072	1478
v/s Ratio Prot	c0.14	0.19		0.07	c0.23		c0.23	0.42		0.04	c0.33	
v/s Ratio Perm			0.33									0.17
v/c Ratio	1.37	0.97	0.33	0.91	1.26		0.97	0.83		0.87	1.02	0.17
Uniform Delay, d1	45.0	39.7	0.0	45.6	41.0		37.6	20.9		47.2	34.0	0.0
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	197.8	40.7	0.6	56.7	139.7		25.8	5.1		66.9	32.3	0.2
Delay (s)	242.8	80.3	0.6	102.4	180.7		63.4	26.0		114.1	66.3	0.2
Level of Service	F	F	A	F	F		E	C		F	E	A
Approach Delay (s)		78.7			162.2			39.1			57.1	
Approach LOS		E			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	64.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	393	1212	1465	33	48	488
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.97	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3252	3353	3342		1676	2640
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3252	3353	3342		1676	2640
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	409	1262	1526	34	50	508
RTOR Reduction (vph)	0	0	2	0	0	30
Lane Group Flow (vph)	409	1262	1558	0	50	478
Confl. Peds. (#/hr)						
Turn Type	Prot	NA	NA		Prot	pm+ov
Protected Phases	7	4	8		6	7
Permitted Phases						6
Actuated Green, G (s)	13.0	58.0	41.0		9.0	22.0
Effective Green, g (s)	13.0	58.0	41.0		9.0	22.0
Actuated g/C Ratio	0.17	0.77	0.55		0.12	0.29
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	563	2592	1826		201	915
v/s Ratio Prot	c0.13	0.38	c0.47		0.03	c0.09
v/s Ratio Perm						0.09
v/c Ratio	0.73	0.49	0.85		0.25	0.52
Uniform Delay, d1	29.3	3.1	14.4		29.9	22.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	8.0	0.7	5.3		2.9	2.1
Delay (s)	37.3	3.7	19.7		32.9	24.2
Level of Service	D	A	B		C	C
Approach Delay (s)		12.0	19.7		25.0	
Approach LOS		B	B		C	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

2014 QUEUING

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	369	1223	1537	50	485
v/c Ratio	0.66	0.47	0.84	0.25	0.51
Control Delay	35.2	3.7	19.7	33.5	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	35.2	3.7	19.7	33.5	19.8
Queue Length 50th (ft)	86	80	302	22	93
Queue Length 95th (ft)	131	108 =125	406 =425	55 =75	143 =150
Internal Link Dist (ft)	=150	765	1175	669	
Turn Bay Length (ft)	325			150	250
Base Capacity (vph)	563	2592	1829	201	945
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.66	0.47	0.84	0.25	0.51

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	74	107	157	1177	1299	78
v/c Ratio	0.13	0.31	0.53	0.48	0.76	0.11
Control Delay	31.9	9.5	56.0	3.3	21.2	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	9.5	56.0	3.3	21.2	4.5
Queue Length 50th (ft)	19	0	100	47	306	4
Queue Length 95th (ft)	39	46	m152	58	396	26
Internal Link Dist (ft)	165			585	463	
Turn Bay Length (ft)	150		150			150
Base Capacity (vph)	578	342	297	2458	1713	739
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.31	0.53	0.48	0.76	0.11

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	409	1262	1560	50	508
v/c Ratio	0.73	0.49	0.85	0.25	0.54
Control Delay	38.0	3.8	20.4	33.5	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	3.8	20.4	33.5	20.4
Queue Length 50th (ft)	97	84	310	22	100
Queue Length 95th (ft)	#148	113	417	55	152
Internal Link Dist (ft)		765	1175	669	
Turn Bay Length (ft)	325			150	250
Base Capacity (vph)	563	2592	1829	201	943
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.49	0.85	0.25	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

2018 LEVEL OF SERVICE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	8	0	4	3	1	114	3	1503	44	101	1707	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	8	0	4	3	1	120	3	1582	46	106	1797	13
Pedestrians		20			20			20			20	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2974	3691	945	2767	3674	854	1829			1648		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2974	3691	945	2767	3674	854	1829			1648		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	98	52	68	59	99			72		
cM capacity (veh/h)	2	3	254	7	3	292	324			382		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	13	124	3	1055	574	106	1198	612
Volume Left	8	3	3	0	0	106	0	0
Volume Right	4	120	0	0	46	0	0	13
cSH	3	102	324	1700	1700	382	1700	1700
Volume to Capacity	4.13	1.22	0.01	0.62	0.34	0.28	0.70	0.36
Queue Length 95th (ft)	Err	217	1	0	0	29	0	0
Control Delay (s)	Err	236.8	16.2	0.0	0.0	18.0	0.0	0.0
Lane LOS	F	F	C			C		
Approach Delay (s)	Err	236.8	0.0			1.0		
Approach LOS	F	F						

Intersection Summary			
Average Delay	42.8		
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	876	43	1410	1042	0	1638
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width	16	12	12	12	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0		4.0
Lane Util. Factor	1.00	1.00	0.95	1.00		0.95
Frpb, ped/bikes	1.00	0.95	1.00	0.97		1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00		1.00
Frt	1.00	0.85	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1900	1432	3353	1455		3353
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1900	1432	3353	1455		3353
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	903	44	1454	1074	0	1689
RTOR Reduction (vph)	0	6	0	0	0	0
Lane Group Flow (vph)	903	39	1454	1074	0	1689
Confl. Peds. (#/hr)	20	20		20	20	
Turn Type	Prot	Perm	NA	Free		NA
Protected Phases	8		2			6
Permitted Phases		8		Free		
Actuated Green, G (s)	35.0	35.0	47.0	90.0		47.0
Effective Green, g (s)	35.0	35.0	47.0	90.0		47.0
Actuated g/C Ratio	0.39	0.39	0.52	1.00		0.52
Clearance Time (s)	4.0	4.0	4.0			4.0
Lane Grp Cap (vph)	738	556	1751	1455		1751
v/s Ratio Prot	c0.48		0.43			c0.50
v/s Ratio Perm		0.03		0.74		
v/c Ratio	1.22	0.07	0.83	0.74		0.96
Uniform Delay, d1	27.5	17.3	18.1	0.0		20.7
Progression Factor	1.00	1.00	1.58	1.00		1.00
Incremental Delay, d2	112.5	0.2	2.0	1.4		14.6
Delay (s)	140.0	17.5	30.6	1.4		35.3
Level of Service	F	B	C	A		D
Approach Delay (s)	134.3		18.2			35.3
Approach LOS	F		B			D

Intersection Summary			
HCM 2000 Control Delay	45.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	105.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	571	116	158	83	109	131	108	1946	89	172	1829	550
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	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	1.00	1.00	1.00	1.00	1.00	1.00	0.91		1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00	0.95
Flpb, ped/bikes	1.00	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	0.85	1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3252	1765	1432	1676	1765	1432	1676	4770		1676	4818	1426
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3252	1765	1432	1676	1765	1432	1676	4770		1676	4818	1426
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	589	120	163	86	112	135	111	2006	92	177	1886	567
RTOR Reduction (vph)	0	0	134	0	0	123	0	5	0	0	0	40
Lane Group Flow (vph)	589	120	29	86	112	12	111	2093	0	177	1886	527
Confl. Peds. (#/hr)	20		20	20		20	20		20	20		20
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8						6
Actuated Green, G (s)	20.0	16.0	16.0	12.0	8.0	8.0	8.0	41.0		5.0	38.0	58.0
Effective Green, g (s)	20.0	16.0	16.0	12.0	8.0	8.0	8.0	41.0		5.0	38.0	58.0
Actuated g/C Ratio	0.22	0.18	0.18	0.13	0.09	0.09	0.09	0.46		0.06	0.42	0.64
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	722	313	254	223	156	127	148	2173		93	2034	918
v/s Ratio Prot	c0.18	0.07		c0.05	c0.06		0.07	c0.44		c0.11	0.39	0.13
v/s Ratio Perm			0.02			0.01						0.24
v/c Ratio	0.82	0.38	0.11	0.39	0.72	0.09	0.75	0.96		1.90	0.93	0.57
Uniform Delay, d1	33.2	32.6	31.1	35.6	39.9	37.7	40.0	23.8		42.5	24.7	9.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.02	1.11	1.16
Incremental Delay, d2	9.9	3.5	0.9	5.0	24.6	1.5	29.0	12.4		410.1	1.0	0.2
Delay (s)	43.1	36.2	32.0	40.6	64.5	39.1	69.0	36.1		453.6	28.3	10.7
Level of Service	D	D	C	D	E	D	E	D		F	C	B
Approach Delay (s)		40.1			48.1			37.8			53.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	45.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	173	367	472	137	337	92	828	1964	210	121	1844	223
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
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	1.00	1.00	1.00	1.00	1.00		0.97	0.91		1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99		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	0.97		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1676	1765	1478	1676	1697		3252	4725		1676	4818	1478
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1676	1765	1478	1676	1697		3252	4725		1676	4818	1478
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	177	374	482	140	344	94	845	2004	214	123	1882	228
RTOR Reduction (vph)	0	0	0	0	10	0	0	13	0	0	0	0
Lane Group Flow (vph)	177	374	482	140	428	0	845	2205	0	123	1882	228
Confl. Peds. (#/hr)	10		10	10		10	10		10	10		10
Turn Type	Prot	NA	Free	Prot	NA		Prot	NA		Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free									Free
Actuated Green, G (s)	10.0	16.0	100.0	12.0	18.0		20.0	51.0		5.0	36.0	100.0
Effective Green, g (s)	10.0	16.0	100.0	12.0	18.0		20.0	51.0		5.0	36.0	100.0
Actuated g/C Ratio	0.10	0.16	1.00	0.12	0.18		0.20	0.51		0.05	0.36	1.00
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	167	282	1478	201	305		650	2409		83	1734	1478
v/s Ratio Prot	0.11	c0.21		0.08	c0.25		c0.26	0.47		c0.07	c0.39	
v/s Ratio Perm			0.33									0.15
v/c Ratio	1.06	1.33	0.33	0.70	1.40		1.30	0.92		1.48	1.09	0.15
Uniform Delay, d1	45.0	42.0	0.0	42.3	41.0		40.0	22.5		47.5	32.0	0.0
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	86.4	169.3	0.6	18.1	200.3		146.1	6.9		270.4	48.8	0.2
Delay (s)	131.4	211.3	0.6	60.4	241.3		186.1	29.4		317.9	80.8	0.2
Level of Service	F	F	A	E	F		F	C		F	F	A
Approach Delay (s)		99.3			197.5			72.6			85.6	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	91.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	110.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group