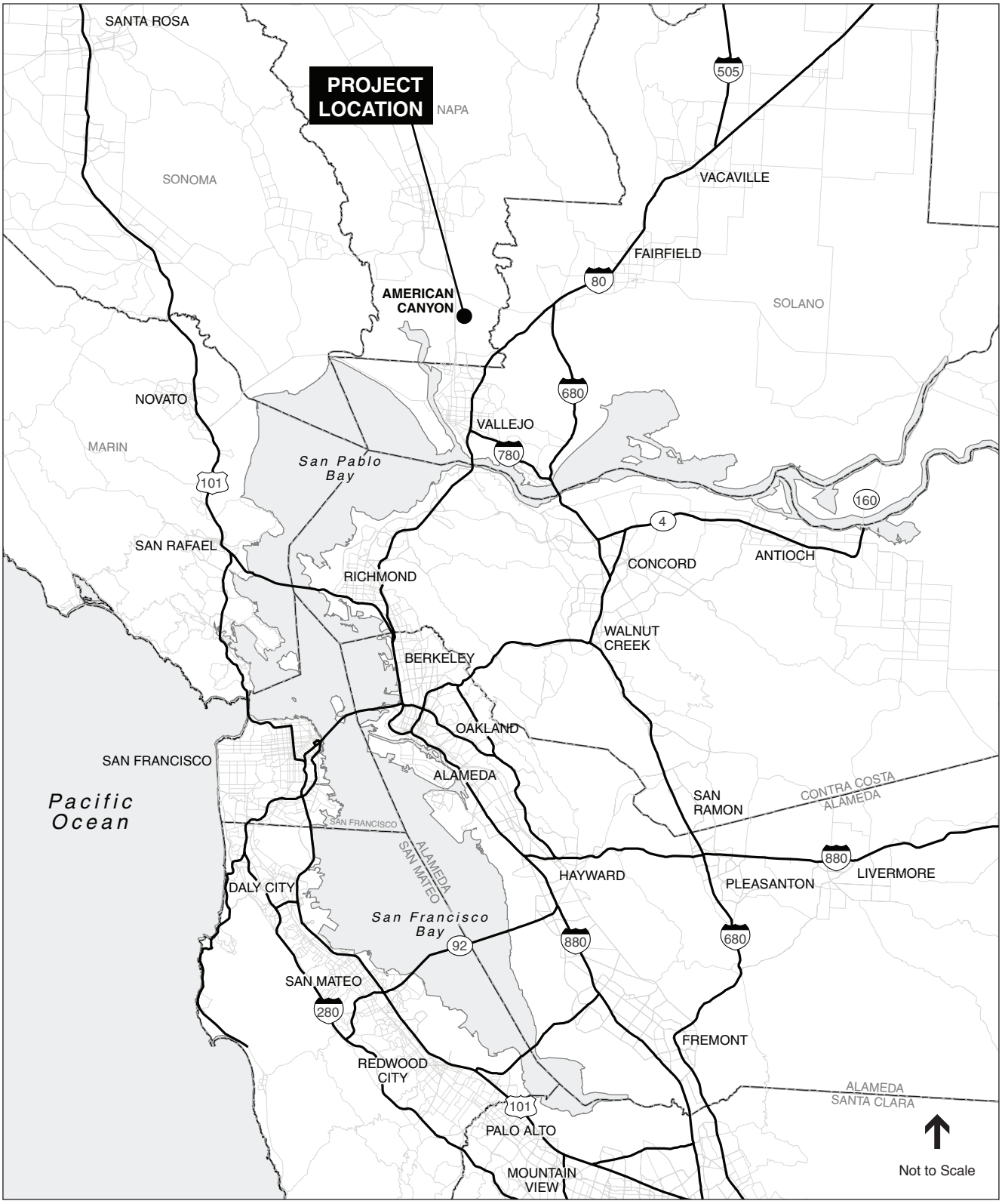
CHAPTER 3
Project Description

3.1 Summary of the Watson Ranch Specific Plan Project

Watson Ranch (herein referred to as the "Project site") encompasses approximately 309 acres of mostly undeveloped land located in the northeastern corner of the City of American Canyon, in southern Napa County (**Figures 3-1** and **3-2**). The Watson Ranch Specific Plan Project (Project) would develop the site with a mix of residential, commercial, and visitor-serving uses. The Project would include adoption of a Specific Plan, including a land use plan and development standards that would govern the future development of the Project site. The Project would rehabilitate portions of an abandoned cement plant to create a new focal point within the City for commercial uses, civic uses, a town square, and visitor-serving uses, all surrounded by a variety of residential housing types that complement the existing community. Specifically, the proposed Project would develop the following uses on the site:

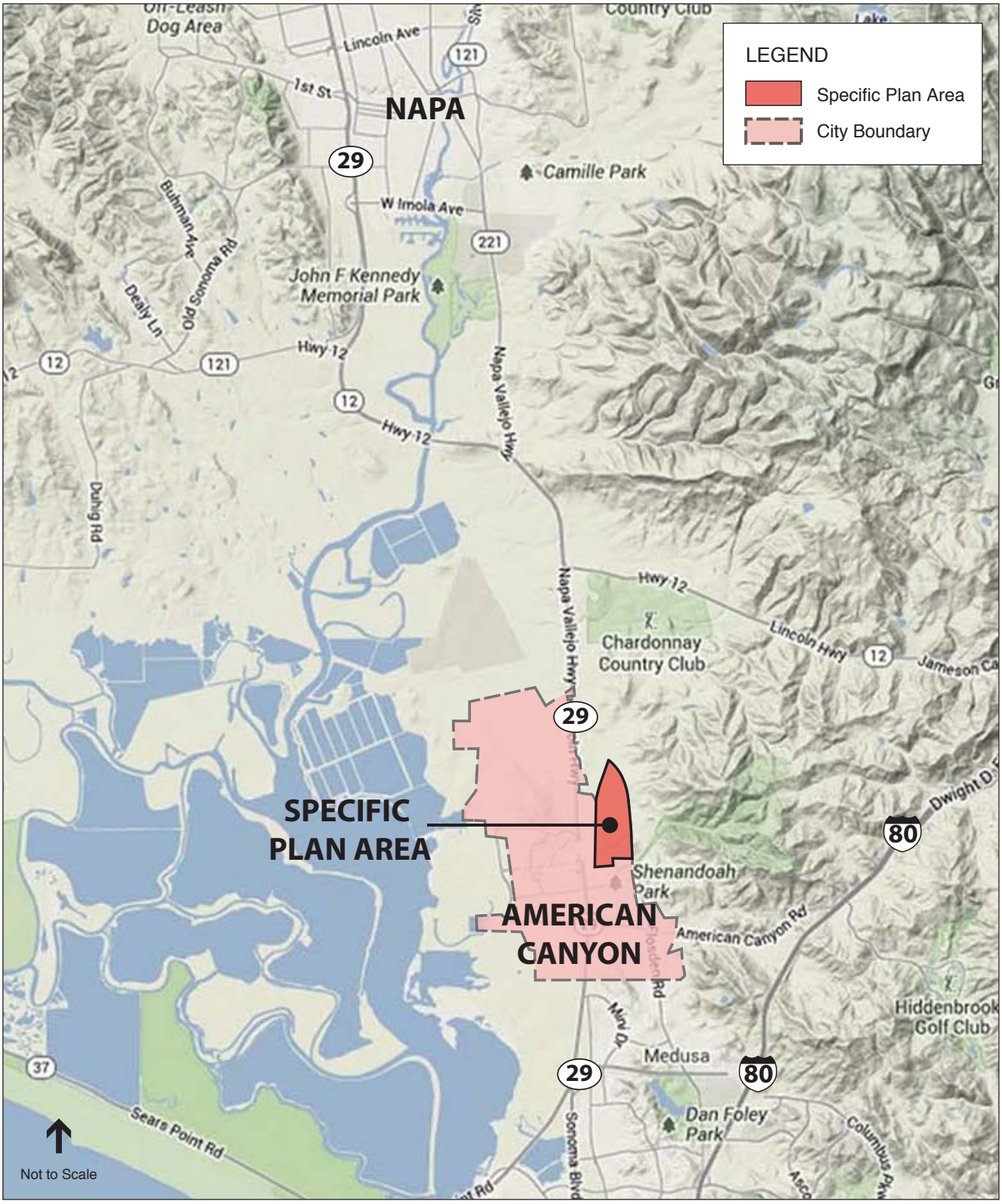
- A mixed-use town center centered on the old cement/basalt plant ruins, which would consist of civic, retail, entertainment, commercial, and visitor serving uses.
- Up to 1,253 new residential units, including high-density, medium-density, and low-density units, including up to 50 live-work units that would be located within the mixed-use town center.
- A network of open space, parks, and trails, providing pedestrian and bicycle circulation throughout the Project site and connecting to adjacent neighborhoods and regional trails.
- A new elementary school for the Napa Valley Unified School District that would serve up to 600 elementary students on a 10-acre site.
- A 200 room hotel.
- Internal street system providing vehicular, bicycle, and pedestrian circulation within the site, including the following specific roadway connections:
  - Connections to Rolling Hills Drive and Summerwood Drive to provide access for residents and emergency vehicles.
  - The extension of Newell Drive from the southern Project boundary, where it connects with the existing terminus of Newell Drive, to the northern Project boundary, defining the eastern edge of the Project site.



SOURCE: ESRI, 2007; ESA 2016

Watson Ranch Specific Plan . 130779

Figure 3-1
Regional Context



SOURCE: Watson Ranch Specific Plan, 2016

Watson Ranch Specific Plan . 130779

Figure 3-2

Project Site Location

  - Connection to a new onsite extension of Rio Del Mar that would begin at the western Project boundary, terminating at an intersection with the proposed Newell Drive extension at the eastern portion of the Project site.

- Connections to and extension of potable water, wastewater, recycled water, storm drainage, and dry utility infrastructure to serve the site. [1]

The Project would also develop the following offsite improvements:

- Roadways and Intersections

  - The extension of Newell Drive from its current offsite terminus near Donaldson Way to the southern boundary of the Project site, connecting to the extension of Newell northward through the Project site.

  - An extension of Rio Del Mar as a major collector, from its current terminus at SR 29 to the western boundary of the Project site with a new grade separated railroad crossing underneath the existing Union Pacific Railroad (UPRR) line.

  - Full intersection improvements at Rio Del Mar/SR 29, including the addition of a third through lane in each direction on SR 29 (both northbound and southbound, with the northbound lane being a shared through/right turn lane); a southbound left turn pocket lane; a new westbound leg, which would consist of two left turn lanes and a shared through/right turn lane; and restriping the eastbound leg to provide a shared through/right turn lane (as opposed to a right turn only lane). The third through lanes on SR 29 would be provided from Rio Del Mar to Eucalyptus Drive. Traffic signal modification would occur at both intersections.

- Water Infrastructure and Associated Improvements

  - Install a new 12-inch water line in Newell Drive from the southern property boundary to the existing water line in Newell Drive just north of Granite Springs Way.

  - Install a 2.5 million gallon (mg) potable water storage tank to serve potable water in the lower pressure zone (Zone 1), which would be located next to an existing recycled water tank, and a 2.0 mg potable water tank to the southeast of the recycled water tank and at a higher elevation to serve potable water in the higher pressure zone (Zone 3).[2]

  - Install a new 18-inch water line connecting the two water tanks.

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1 This EIR provides a description of the onsite utility service systems that would serve the proposed development and shows the approximate alignment and location of the proposed utility lines and connections, recognizing that the design of these systems may change as engineering plans are finalized prior to construction.

2 The proposed water tanks were previously analyzed under CEQA in the following documents, each of which were adopted and certified by the City: Proposed Water Tank Sites (2) Mitigated Negative Declaration, adopted April 2004 (SCH #2004042149), the Canyon Estates General Plan Amendment, Re-Zoning, and Annexation Final Initial Study/Mitigated Negative Declaration, adopted October 2014 (SCH# 2014082050),and the Final Environmental Impact Report for the American Canyon High School and New American Canyon Middle School and City of American Canyon High Pressure Water Storage Tank Project, adopted December 2007 (SCH# 2007092014). Analysis from these documents is included and updated in the analysis of the proposed Project, as applicable, in each of the technical sections addressed in Chapters 4.1 through 4.13 of this EIR.

  - Install a paved road, approximately 15 feet wide that would allow access to the 2.0 mg potable water tank (serving Zone 3).
  - Upsize an existing 6-inch water line to a 12-inch line that runs within South Napa Junction Road, extending from the UPRR tracks (at the western Project boundary) to SR29.

- Sanitary Sewer
  - Install a new 15-inch sanitary sewer line in South Napa Junction Road from the western Project boundary to SR 29, continuing southward in SR 29 to the point where it connects to the existing 10-inch line that will be upsized to a 15-inch line from the point of connection at South Napa Junction Road to American Canyon Road.
- Recycled Water
  - Install a new 12-inch recycled water line in South Napa Junction Road from the western property boundary to SR 29.
- Storm Water
  - Install a storm drain pipe in Rio Del Mar that connects the Watson Ranch Specific Plan detention basin at the western edge of the property to the existing City detention basin on Main Street.

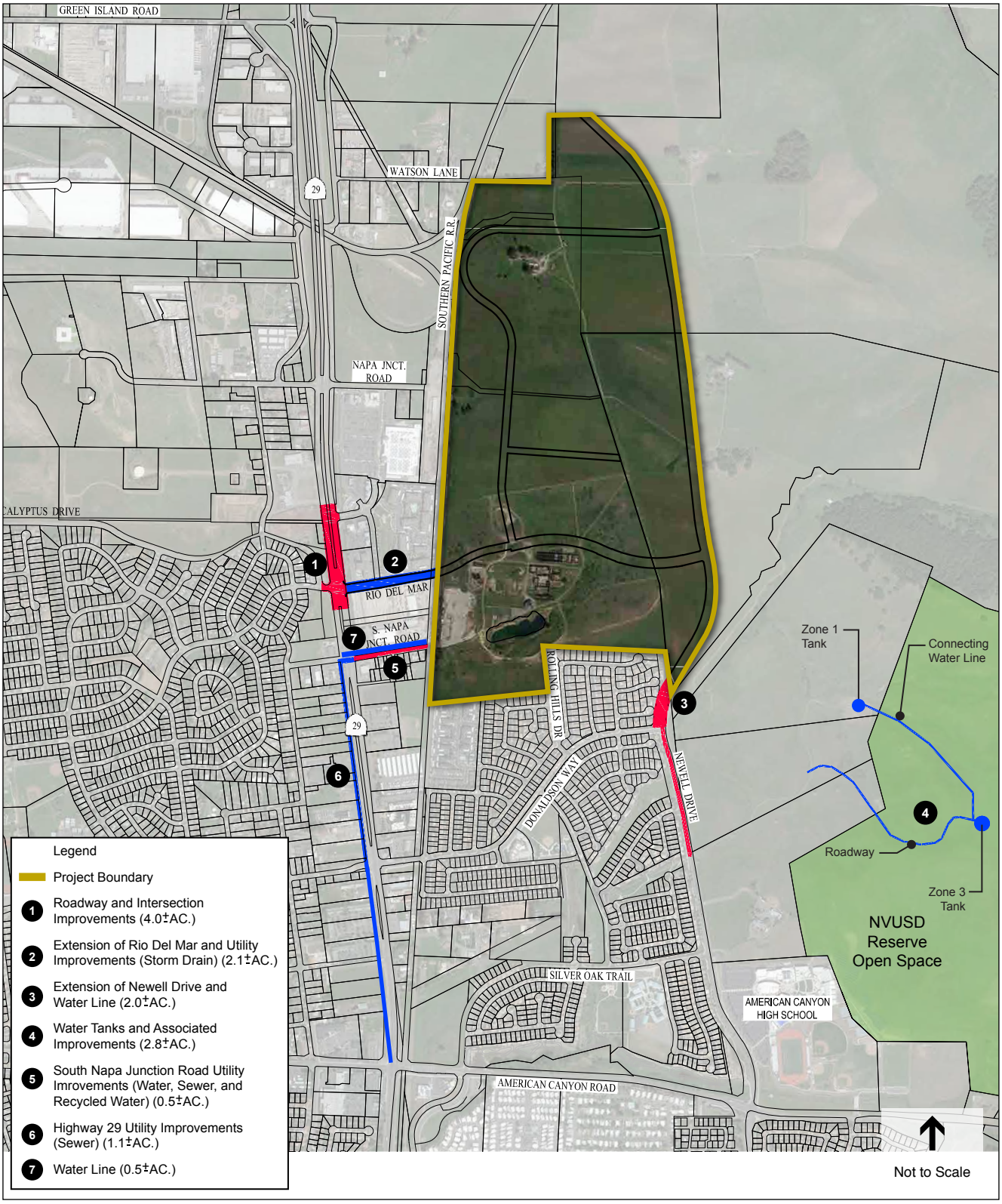
Offsite water improvements would largely occur in undeveloped areas, while the recycled water, sewer, storm water, and roadway improvements would largely occur within existing roadways or other developed areas.

As described, the Project includes both onsite (**Figure 3-3**) and offsite improvements (see **Figure 3-4**). Together, proposed onsite and offsite improvements comprise the proposed Project and, for the purposes of this EIR, the Project site consists of the Specific Plan area and all associated offsite improvements. Detailed figures illustrating the various Project components are provided later in this section.

Implementation of the proposed Project would require the City of American Canyon (the Lead Agency) to adopt the Specific Plan as reflected in the Conceptual Site Plan (Figure3-3), approve tentative and final tract maps a development agreement, and undergo design permit approvals. In addition, the Project also includes a General Plan amendment to the City's Circulation Element to relocate the planned Major Collector designation and Major Intersection designation from South Napa Junction Road to Rio Del Mar at SR 29. The amendment will involve changes in references from "S. Napa Junction Road" to "Rio Del Mar" in Table 3 of the Circulation Element and changes to Figure 3, Circulation Map, in the City's Circulation Element. These amendments to the Circulation Element are consistent with the Goals, Objectives and Policies of the Circulation Element, which remain unchanged.

SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-3
Conceptual Site Plan



SOURCE: CBG, 2016

Watson Ranch Specific Plan . 130779

Figure 3-4

Offsite Improvements

Purpose of the Specific Plan

California State Law authorizes cities with adopted General Plans to prepare and adopt Specific Plans (in accordance with Government Code § 65450), if so directed by their legislative bodies, to use as an implementation tool between the General Plan and individual development proposals. A Specific Plan typically combines a land use plan, zoning regulations, a capital improvement program, development standards, design guidelines, and other regulations tailored to meet the specific goals of a project site.

A Specific Plan must, by law, include a description of the following:

- The distribution, location, and extent of the uses of land, including open space, within the area covered by the plan.
- The proposed distribution, location, extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan.
- Standards and criteria by which development will proceed, and standards for the conservation, development, and use of natural resources, where applicable.
- A program of implementation measures including regulations, programs, public works projects, and financing measures necessary to carry out paragraphs (1), (2), and (3).

Legal Authority and Relationship of the Specific Plan to the American Canyon General Plan

Development in American Canyon is guided by the goals, objectives, and policies set forth in the City's General Plan, which was first adopted by the American Canyon City Council in November 1994 and amended through March 2015. The General Plan establishes policies for the use of all land within the city.

The City of American Canyon would adopt the proposed Project under a procedure that is consistent with the General Plan and with the provisions of Article 8, § 65450 through 65457 of Title 7, Planning and Land Use Law, of the California Government Code. Individual development proposals within the Project site (including tentative parcel/subdivision maps, use permits, design review, building permits, and improvement plans) would need to be consistent with the proposed Specific Plan and the General Plan. As stated in § 65454, a Specific Plan may not be adopted or amended unless the proposed plan or amendment is consistent with the General Plan. As noted above, the Project would require a General Plan Amendment to relocate a Major Collector designation and a Major intersection designation from South Napa Junction Road to Rio Del Mar and SR 29.

According to § 65453, a Specific Plan shall be prepared, adopted, and amended in the same manner as a General Plan, except that a Specific Plan may be adopted by resolution or by

ordinance and may be amended as often as deemed necessary by the legislative body. The proposed Project Specific Plan would be adopted by ordinance.

3.2 Project Objectives

The City of American Canyon General Plan directs that a Specific Plan shall be prepared for the Project site to provide the community vision, land use plan, infrastructure plan, development standards, design guidelines, and implementation measures that would ensure development in a manner that is consistent with the goals, objectives, principles, and policies of the General Plan. The City's overarching vision for development of the Project site, as stated in the General Plan, is to "Provide for the development of a Town Center that physically and functionally serves as the symbolic and identifiable focus of community activities and events for the City of American Canyon and which is a regional destination within the Napa Valley" (General Plan Objective 1.19).

This vision would be achieved through the following Project objectives:

- Provide for build out of the "Town Center" as envisioned by the City's General Plan and in furtherance of Measure C, the citizen initiative that prezoned 70 acres of the site for Town Center development.
- Provide a civic plaza that would serve as a community focal point and gathering place for American Canyon residents.
- Reduce pressure for residential development of properties within the County's Agricultural Preserve by developing within the city limits.
- Provide a variety of housing types to accommodate workforce housing and housing appropriate for a variety of ages to create a mixed-income community in a location proximate to recreational amenities and community services.
- Address an existing need for elementary school services by providing a new school that would be available to existing American Canyon students, as well as new students resulting from the Project.
- Develop the Project site in a compact manner consistent with the principles of smart growth and the City's "Complete Streets" Policy to create a pedestrian and bicycle-friendly living environment that connects existing neighborhoods with the Project.
- Stimulate the creation of an economically vital commercial component that would generate sales tax and transient occupancy tax proceeds to benefit the City.
- Expand existing local and regional trail opportunities (such as the River to Ridge Trail and Napa Valley Vine Trail) and make them more accessible to local residents and visitors. Provide additional public open space and access to new and existing recreational amenities.
- Create new jobs in the retail and hospitality venues to provide opportunities for people living in American Canyon.

- Be a model of sustainability in Project design with respect to the use of water resources.
- Provide housing to address both city and regional jobs housing balance based on proximity of project site to the city and county industrial park area.

3.3 Project Location

Regional Location

The Project site is located in the City of American Canyon, in southern Napa County, approximately two miles north of the City of Vallejo, five miles south of the City of Napa, 36 miles north of San Francisco, and a few miles northeast of the San Pablo Bay. The Napa River runs north-south near the western boundary of the City, starting in Mount St. Helena to the north, flowing south to the San Pablo Bay, which flows into the San Francisco Bay. Figure 3-1 shows the regional location of the City of American Canyon.

Regional access to the City and Project site is afforded by State Route 29 (SR 29), State Route 12 (SR 12) and Interstate 80 (I-80). SR 29 bisects the City at its approximate center and serves as the City's primary north-south arterial, providing access to the nearby Napa Valley to the north and the City of Vallejo to the south. Regional access from the greater San Francisco and Sacramento metropolitan areas is provided by I-80, which is located approximately three miles east of the Project site and intersects with Jamieson Canyon Road (SR 12) to the north and American Canyon Road to the south.

American Canyon

The City of American Canyon encompasses approximately six square miles at the southern end of Napa County. Figure 3-2 shows the City boundaries and the relative location of the Project site. The City boundaries are coterminous with the Solano County and City of Vallejo boundaries, and extend north towards the Napa County Airport and east towards the Sulphur Springs mountains. The City is bounded geographically by the Napa River to the west, the Eastern Foothills of the Sulphur Springs Mountain Range to the east, the City of Vallejo to the south, and the Napa Airport to the north. The City is located in a transitional area between the Sulphur Springs Mountains and the Napa River.

The City is on the northern edge of the outward growth from the San Francisco Bay area. American Canyon is situated as a primary entry to the vineyards and wineries of the Napa Valley for visitors traveling from I-80, SR 29, and SR 12. Located on the Napa Valley floor and surrounded by rolling hills, the City is bordered by predominantly rural and agricultural land uses. The City encompasses a variety of housing types, including suburban tract residential neighborhoods, large-lot rural residential parcels, multi-family developments; commercial and industrial uses along the SR 29 corridor; an industrial park located to the south of the Napa Airport; and parks and open space. The community is served by three elementary schools, one middle school, and one high school. Civic facilities include City Hall, a library, post office, community center, and senior center.

Historically, development in the City was consistent with its rural environment and characterized by light industrial and commercial uses along SR 29 with large-lot rural residences on its periphery. Recent development is characterized by uses and patterns typical of planned residential communities throughout northern California, including smaller-lot single-family housing developments with consistent architectural styles, building materials, color schemes, and moderate street landscaping.

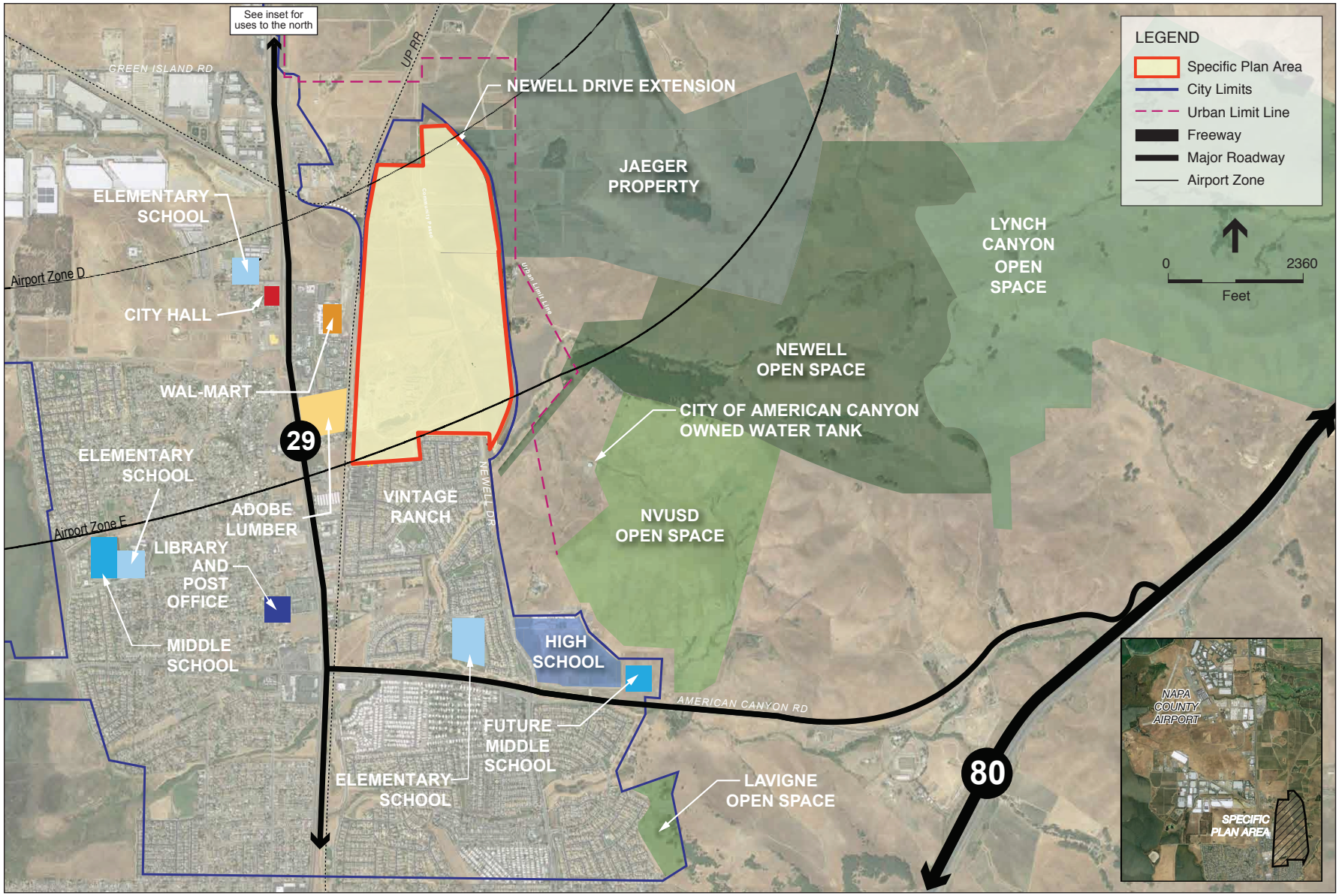
The City contains significant environmental resources, including foothills and canyons, woodlands and grasslands, riparian corridors, wetlands, and wildlife habitats. The mountains and river offer various recreational opportunities for residents and visitors, such as hiking, equestrian, water sports, camping, and nature education and observation.

Project Vicinity

The Project site consist of four parcels, located at: 699 South Napa Junction Road and 100 Watson Lane (APN 059-020-031, 059-020-039 and 059-020-040), and 570 and 595 Napa Junction Road (APN 059-030-005).

Figure 3-5 shows the existing conditions in the vicinity of the Project site. The eastern edge of the Project site aligns with the existing City of American Canyon City Limits. Commercial uses are generally clustered to the west of the Project site, along the SR 29 corridor to the north and south. The western boundary of the Project site is formed by an active UPRR, which is currently leased by California Northern Railroad (CFNR), and a mix of commercial and high-density residential uses is closer to SR 29. The rail line, while active, is not heavily used. A single-family housing development is located to the south (Vintage Ranch), and agricultural and grasslands are located to the east. The Jaeger Property line forms the far northeastern boundary of the Project site. The Newell Open Space Preserve is located southeast of the Project site, which is accessed from a trail head on Newell Drive and connects to the larger Lynch Canyon Open Space and Solano Open Space areas. A small, rural residential enclave is located outside of the City limits, off Watson Lane, at the northwest end of the Project site.

The Project site is located approximately one-quarter mile north of American Canyon High School and the site of a future middle school. The Project site is connected to public transit via the Vine, a bus line serving Napa County with stops in the Project vicinity.



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-5
Land Uses Near the Project Site

3.4 Existing Conditions

Project Site Ownership and Annexation

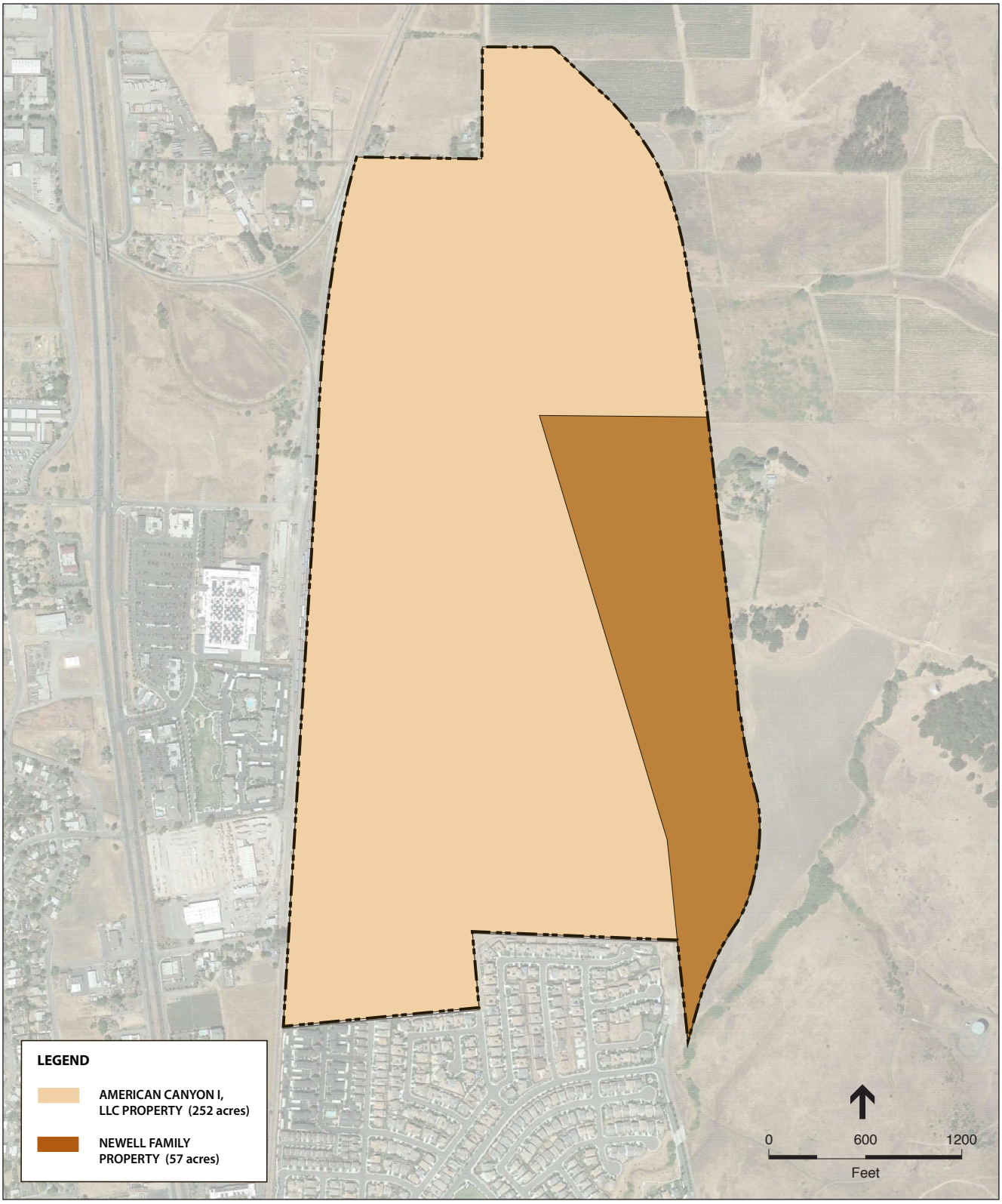
American Canyon was incorporated as a city in 1992 with 30 acres of the Project site included in the city limits while the remaining land stayed within the unincorporated Napa County. In 1994 a portion of the site was designated Town Center (TC) in the City's General Plan. In 1999 American Canyon voters approved "Measure C," a citizen's initiative, which pre-zoned an additional 70 acres of the site to TC. That same year, the Local Agency Formation Commission (Napa County LAFCO) added this 70-acre portion of the site to the City's Sphere of Influence, making it eligible for annexation.

In 2004, American Canyon, LLC, and the Jaeger family formed American Canyon 1, LLC (AC-1). Property controlled by AC-1 and the Newell family makes up the approximately 309-acre Watson Ranch Specific Plan area, which in 2008, was included within the City's Urban Limit Line (ULL). The City's ULL delineates the City's growth boundary through 2030.In 2010 Napa County LAFCO approved annexation of the remaining 270 acres of the Watson Ranch Specific Plan area. In 2011, the City approved a lot-line adjustment so they are coterminous with the City's new corporate boundary.

Of the approximately 309 acre Project site, 252 are owned by AC-1, while the remaining 57 acres is owned by the Newell Family (see **Figure 3-6**). Both AC-1 and the Newell Family are the Project Applicants. Various individuals or entities own land surrounding the proposed offsite improvements.

Historical Use and Existing Structures

Over the last century, the Project site has been primarily dedicated to industrial uses. In 1900 the area was used as a limestone quarry, and in the early 1900s the Standard Portland Cement Company began operations in the area, producing up to 2,000 barrels of cement per day. The Standard Portland Cement Company ceased operations in the 1930s and in the 1950s the Basalt Rock Company began using the property to produce lightweight aggregate for use in concrete for high rise buildings until the company closed in 1978. The Project site includes multiple derelict structures and a manmade quarry pond, known as Quarry Lake Pond, which together are referred to as the "ruins" and are remnants of the long history of industrial uses at the Project site. Construction of these concrete structures and creation of the existing quarry pond, located just south of the ruins, occurred between 1900 and the 1950s. Because of this long time frame, the facilities were built with different levels of structural integrity and today are in various stages of decay. In 1985, Jaeger Vineyards purchased the property and, after failed attempts at grape cultivation, the conclusion was made that the soils in the Project site would not support vineyard cultivation and the property should be put to other uses.



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-6
Project Site Ownership

Current Conditions

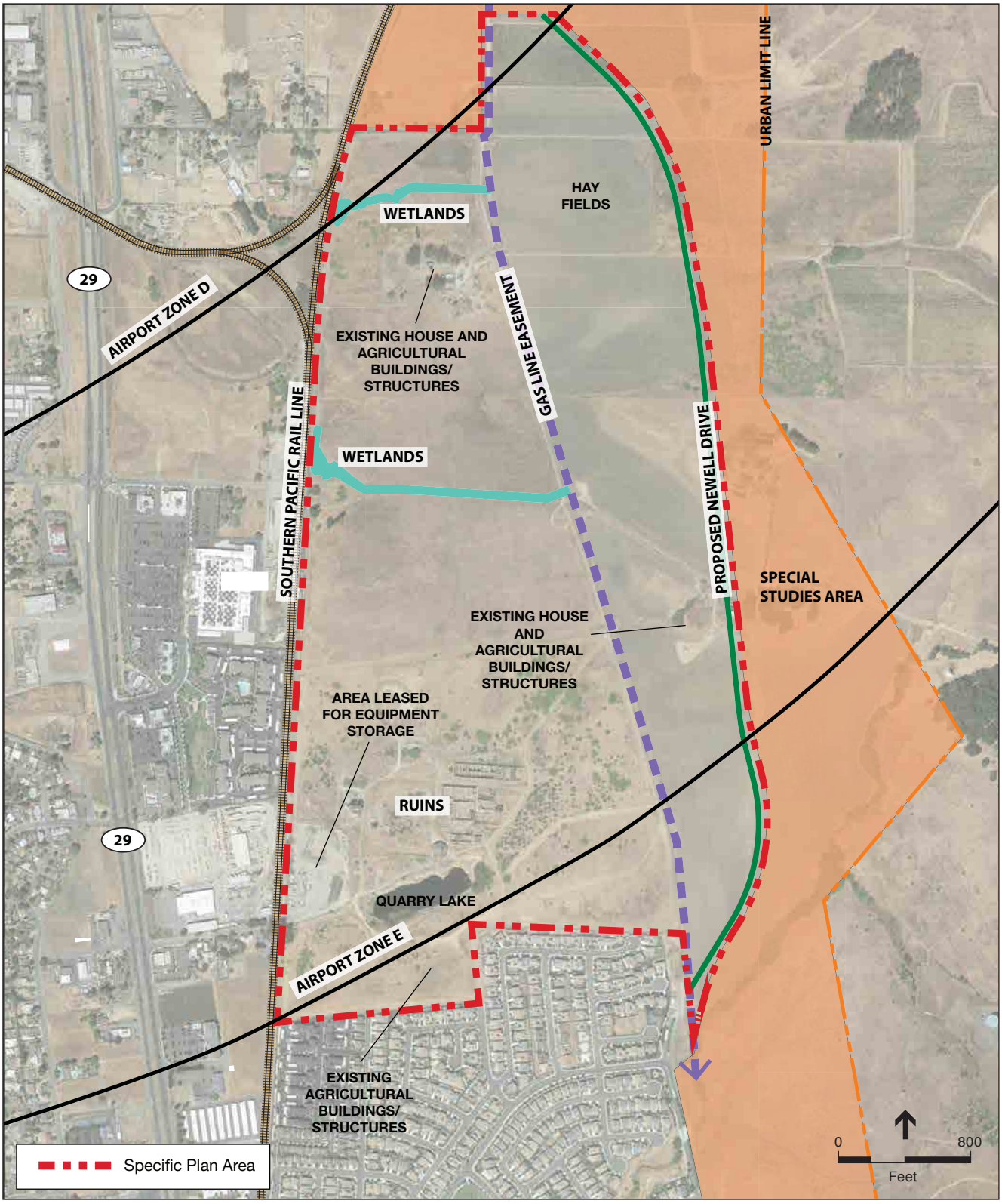
Figure 3-7 shows the existing conditions within and surrounding the Project site. The existing terrain varies from a relatively flat in the west to gently rolling hills to the north and east. The northern portion of the Project site consists of cultivated hay fields, and there are a few buildings that support these operations scattered throughout the Project site, including: four structures near the northeast corner of the site, one structure near the southwest corner of the site, and three or four structures on the eastern side of the site. There are two existing ranch houses on the Project site. Neither of the houses is occupied, and both houses are in a considerable state of disrepair.

The area surrounding the cement plant ruins on the southern portion of the Project site is undeveloped, with a small area near the entrance at South Napa Junction Road that is leased for equipment storage. The quarry pond is located just south of the ruins, and a Pacific Gas and Electric (PG&E) gas line and easement runs roughly down the center of the Project site (Figure 3-7). The Napa County Airport is located approximately two miles northwest of the Project site, and portions of the site are subject to the land use controls contained in the Napa County Airport Land Use Plan for Airport Land Use Zones D and E, as discussed further in Section 4.8, *Land Use and Planning*.

The quarry pond has an existing contributing watershed area of roughly 50 acres, and the pond has been used in the past to supply water for irrigation of crop areas on the hillsides above. Quarry Lake Pond is underlain by fractured bedrock and clay soils, and has limited connectivity to groundwater. The average water level elevation of the pond is around 60 feet, compared with a rim elevation surrounding the pond of roughly 100 feet. Existing vegetation on the site includes short seasonal grasses, a fig tree, and a few scattered eucalyptus trees. There are two minor wetland courses that generally run east to west across the Project site, terminating at the rail line. The dominant habitat types on the site are non-native grasslands and cultivated areas where oats are the primary crop.

The Project site is adjacent to the Napa Branch of the UPRR network, which transports freight cargo. UPRR is the largest rail carrier in California in terms of mileage and train operations and operates a network of railroads connecting San Francisco to Sacramento, and areas to the north and east.

The Project site is not currently accessible to the public. There is fencing surrounding the Project site, which prevents access from the Vintage Ranch neighborhood to the south, as well as the commercial and industrial properties to the west and northwest. Primary access to the Project site is provided from SR 29 at South Napa Junction Road in the southwest corner of the Project site. South Napa Junction Road terminates in an existing at-grade railroad crossing that connects to a dirt road leading toward the Napa Valley Ruins area. Lining the south side of South Napa Junction Road, between SR 29 and the rail crossing, is a cluster of parcels that contain a commercial office building adjacent to SR 29, as well as several residences with associated outbuildings, and four unimproved parcels with driveway access to South Napa Junction Road.



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-7
Existing Project Site Conditions

The land on the north side of South Napa Junction Road is occupied by the Adobe Lumber Company, which operates several buildings onsite. Additional development to the west of the Project site includes an apartment complex, two hotels, a Walmart, the City Hall building, and the American Canyon Visitor's Center.

Existing Land Use

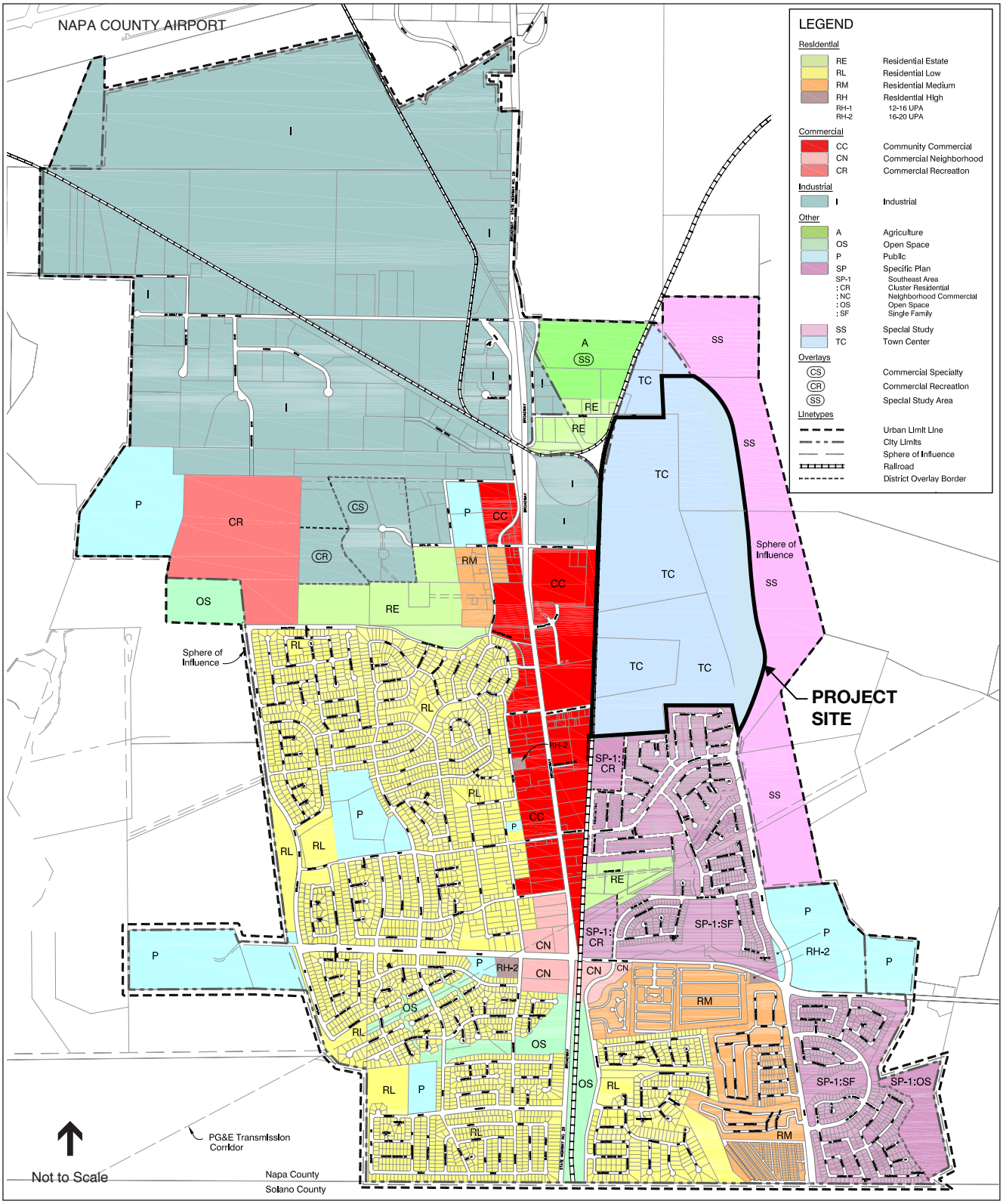
General Plan Land Use

Figure 3-8 shows the General Plan land use map for the City of American Canyon, including the Project site. As shown, the Project site is designated Town Center (TC), which is a designation that is unique to the Project site and encourages the development of a mix of land uses, including commercial, residential, and public/institutional uses. Parcels to the southwest of the Project site, along South Napa Junction Road and Rio Del Mar are designated Community Commercial (CC). The eastern boundary of the Project site aligns with the city limits and city sphere of influence. Beyond the eastern boundary are lands designated Special Study (SS), which are located outside the city limits but within the City's urban limit line. Under the Napa County General Plan, the SS areas allow Agriculture (A) and Open Space (OS) uses at a density of up to one housing unit per 40 acres; however, new uses may be determined by subsequent study and a General Plan amendment. The properties along the southern boundary of the Project site are designated Specific Plan Single Family (SP-1: SF) and Specific Plan Cluster Residential (SP-1: CR). To the west of the Project site, the land south of Napa Junction Road and along SR 29 is designated Community Commercial (CC). The land along the northwest boundary of the Project site is designated Industrial (I), between Napa Junction Road and the city limit, and Residential Estate (RE), between the city limit and Watson Lane. Beyond Watson Lane there are additional parcels designated A/SS that fall outside the City Limits but within the City's ULL.

Offsite improvements associated with the Project would occur on land designated Special Study (SS) or Community Commercial (CC). The sites where the two proposed water tanks would be installed are designated for Agriculture (A) and Open Space (OS) uses in the Napa County General Plan, although the sites are currently owned by the City.

Zoning Districts

The City's zoning districts (shown in **Figure 3-9**) correspond to the General Plan land use designations, but include further differentiation. The Project site is zoned Town Center (TC) with adjacent parcels zoned Specific Plan Single Family (SP-1: SF) and Specific Plan Cluster Residential (SP-1: CR) to the south. Properties along the western boundary of the Project site consist of land zoned Community Commercial (CC); however, a portion of the land between the rail line and Eucalyptus Drive is zoned High Density Residential at 20 units per acre (RH-2), and the land north of Napa Junction Road is split between Community Commercial (CC) and Light Industrial (LI). The City has generally prezoned the land within its ULL and outside the City Limit as Special Study (SS).

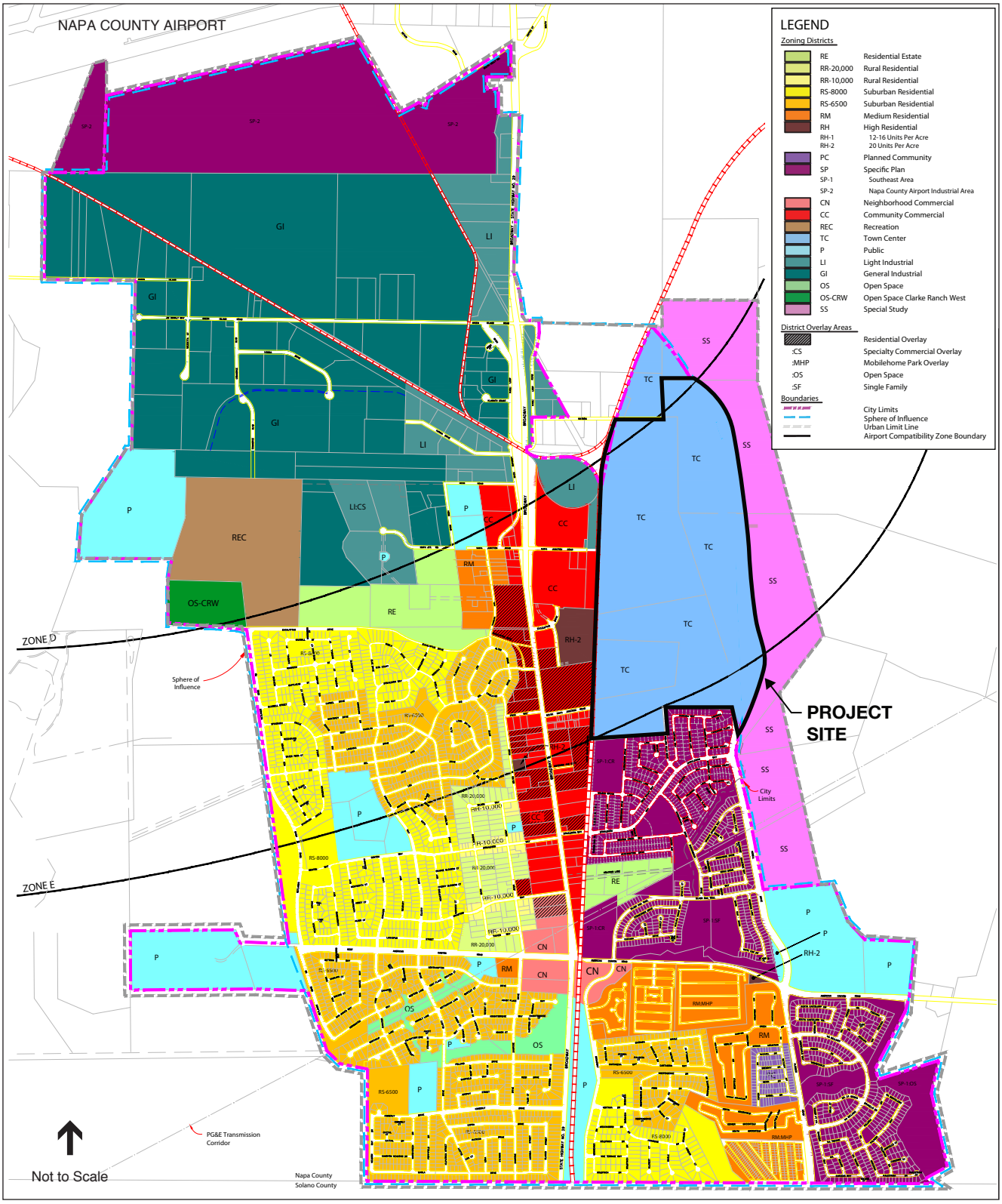


SOURCE: City of American Canyon, 2010

Watson Ranch Specific Plan . 130779

Figure 3-8

General Plan Land Use Diagram



SOURCE: City of American Canyon, 2010

Watson Ranch Specific Plan . 130779

Figure 3-9
Zoning Map

The offsite water tank and infrastructure extensions to the southeast of the Project site would occur on land zoned Special Study (SS), and adjacent to land zoned Planned Community (PC). The extension of Rio Del Mar and the SR 29 sewer pipeline upsizing would occur adjacent to lands zoned Community Commercial (CC), or Community Commercial (CC) with a Residential Overlay.

Airport Land Use Plan

The Napa County Airport Land Use Compatibility Plan (ALUCP) was developed to assist the Napa County Airport Land Use Commission (ALUC) in assessing local jurisdiction's land use plans and zoning regulations in the airports' environs for compatibility with present and future airport activities including potential noise impacts, flight hazards, safety impacts, and overflight impacts. The Napa County ALUCP (Napa County ALUC, 1999) has established Compatibility Zones around the airport. These Compatibility Zones each have their own restrictions as to the types of allowed land uses that can be zoned in each Compatibility Zone, which is based on specific noise, safety, airspace protection, overflight and other compatibility policies created by the County. The land uses located within the proposed Project site would include residential, educational, recreational, and commercial land uses. These land uses would be located within Compatibility Zones D and E. As shown in Figure 3-7, proposed parks and open space land uses would be located within Compatibility Zone D; and residential, commercial, educational, and recreational land uses would be located within Compatibility Zone E. The proposed Project design and layout would conform to all of the Napa County ALUCP's Compatibility Zone requirements.

3.5 Detailed Project Characteristics

The proposed Project involves phased development of (1) a series of residential neighborhoods of mixed densities and housing types with a total of approximately 1,253 new units; (2) a mixed-use commercial area consisting of civic, retail, entertainment, commercial, visitor serving and residential uses focused around the ruins; and a 200 room hotel; (3) a network of open space, parks, and bicycle and pedestrian corridors and trails linking the uses on the site and connecting to regional trails; (4) a new elementary school; (5) infrastructure to support the development, including new streets and roadways, connections to Rolling Hills Drive, Summerwood Drive, and Watson lane, a potable water system, wastewater system, recycled water system, storm drainage system, and dry utilities; (6) offsite transportation improvements, including extension of Rio Del Mar, construction of a below-grade railroad crossing along Rio Del Mar, extension of Newell Drive to the south, and (7) offsite utilities infrastructure improvements, including installation of two new water tanks and new or upsized water, recycled water, sewer, and storm drain lines to serve the Project. The agricultural buildings and two existing (but dilapidated) ranch houses would be demolished, while the existing cement/basalt plant ruins would be rehabilitated and reused, as further described below. The Specific Plan is provided in its entirety as the last appendix of this EIR (Appendix K).

Specific Plan Land Uses

Figure 3-10 shows the proposed uses for the Project site, all of which are permitted within the TC zoning designation. The Napa Valley Ruins and Gardens (NVR&G) site would become the focal point of the land use plan with a mix of commercial, retail, civic and open space uses. While not considered historical resources, the ruins of the Standard Portland Cement Company plant are considered important to the City of American Canyon. Development of the NVR&G area would include rehabilitation and reuse of portions of the existing cement/basalt plant ruins (also referred to in this document as a cement and aggregate facility), including two intact buildings that still have roofs (the rotunda and the power plant), one warehouse building with a partial roof, other ruins, and the quarry pond.

The land use plan for the proposed Project includes medium-density residential uses adjacent to NVR&G to serve as a transition between the activity of the commercial uses and low-density residential uses located to the north. High-density residential uses would be located at the southwest corner of the Project site, adjacent to existing high-density residential development. The Project would include parks and open spaces throughout the site, which would be interconnected by trails.

Consistent with the General Plan designation of Town Center, the Project would develop the following residential land use categories:

LDR: Low Density Residential. This designation enables development of single-family neighborhoods, with an allowable density of one to six dwelling units per gross developable acre.

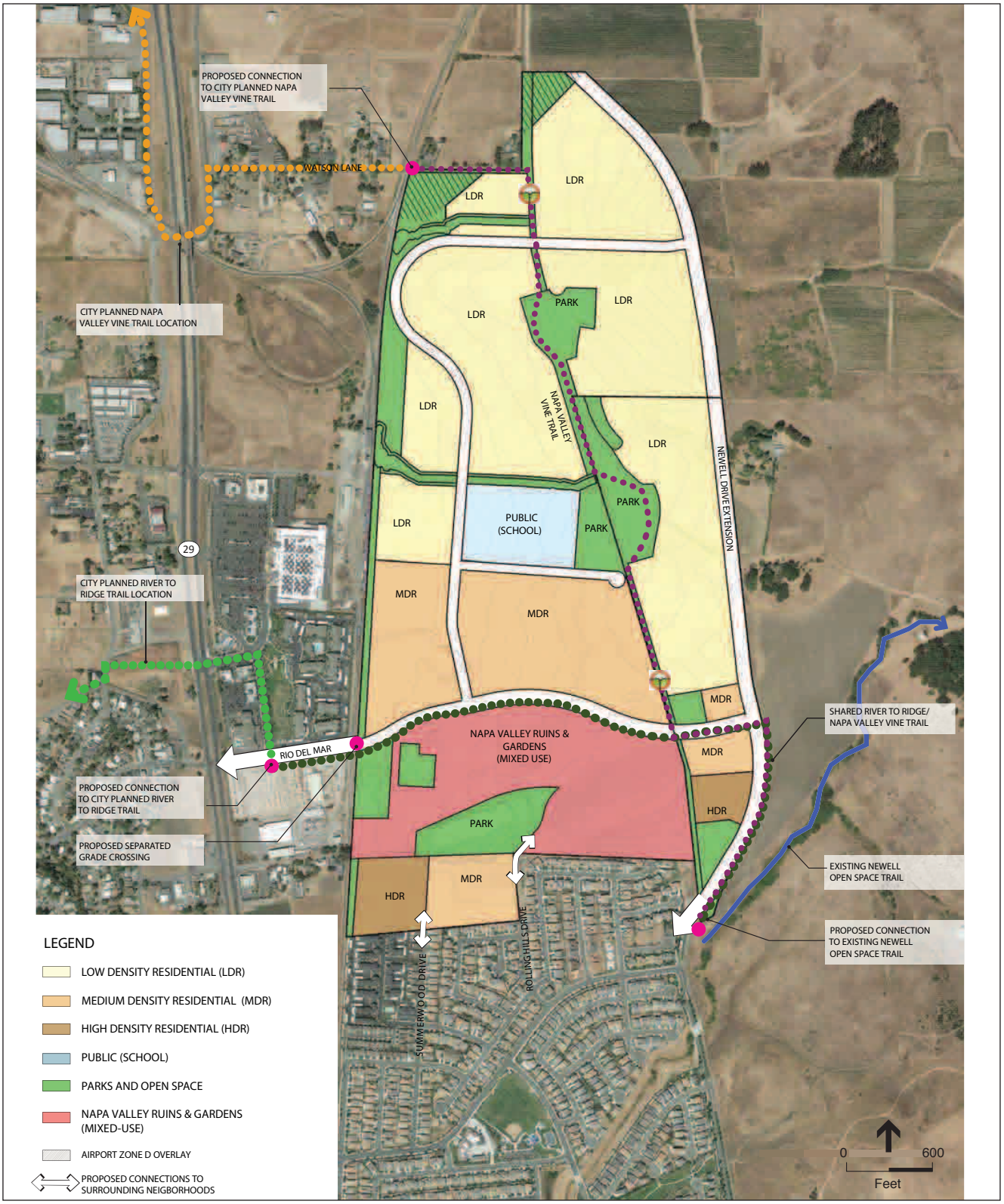
MDR: Medium Density Residential. This designation enables development of medium-density attached and detached housing units, such as small-lot single-family homes, duplexes, triplexes, fourplex units, townhomes, and condominiums. The allowable density is 6.1 to 18 dwelling units per gross developable acre.

HDR: High Density Residential. This designation enables development of high-density attached housing such as townhomes, apartments and condominiums. The allowable density is 18.1 to 27 dwelling units per gross developable acre, though the proposed Project would attain a minimum density of 20 units per gross developable acre in all high-density neighborhoods.

In addition, the Specific Plan would designate new land for the following public uses:

Napa Valley Ruins & Gardens (Mixed Use): This designation allows for a mix of commercial, retail, entertainment, and community serving uses in and around the NVR&G area, as called for in the General Plan. Such uses could include offices, retail establishments, restaurants, personal services, winery facilities, and mixed-use residential and live-work units. This designation would also include, a hotel and events center, entertainment, recreation, park uses, and mobile food venue and a community farmers market. Parcels may include multiple uses within individual buildings.

Public Facilities: This designation identifies the area intended for the proposed elementary school.



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-10
Proposed Land Use Plan

Parks and Open Space: This designation allows for a variety of recreational uses that would include parks and trails, a publically-owned community plaza located in the NVR&G mixed use area, and the vine trail alignment through the Project site. Improvements may include multi-purpose trails, tot lots, playground equipment, seating areas, and security lighting. Additional recreational amenities may include: ball fields, volleyball courts, skating ramps, and picnic facilities. The parks and open space land use may also contain community gardens, vineyards, fruit bearing orchards, and other edible landscape features. Stormwater improvements in conjunction with recreational uses, such as stormwater retention in the lake, would also be permitted in this land use category. This designation also encompasses seasonal and permanent wetlands, water quality, and stormwater detention features and their associated structures. Limited recreational trail access would also be permitted to the wetlands.

A more detailed description of each of the proposed land uses identified in Figure 3-10 is provided below and in the following pages.

Residential Uses

A variety of housing types offered throughout the Specific Plan area would include: apartments, row townhomes, duet units, cottages, paseo-oriented homes, small- and standard-lot homes, and live/work townhomes. The Specific Plan encourages an architectural style that speaks of the surrounding Napa Valley wine country, specifying a contemporary interpretation of Craftsman and American architectural styles reinforced with a carefully selected landscape palette to create a memorable community with a strong sense of place.

Residential neighborhoods within Watson Ranch would provide variety in terms of individual character. Those closer to the NVR&G are more urban (or more dense), with a strongly gridded street pattern. Homes and row townhomes along Rio Del Mar would have front doors and porches that address the street. Vehicular access to these homes would be provided via rear alleys. Moving north away from NVR&G, the topography becomes more variable, and the street pattern grid adapts to the natural landform. Lots would increase in size, resulting in a transition to lower density moving away from the NVR&G.

Neighborhoods would not be walled off from each other, but would be interconnected by the street network, which is designed to connect motorists, bicyclists, and pedestrians to the neighborhoods, NVR&G area, and the system of parks, trails, and open space. Connectivity is supported by features such as open ended cul-de-sacs, which provide traffic calming measures and opportunities to pass between neighborhoods. Each neighborhood would be planted with a unique identifying landscape palette, as specified in Appendix A.3.3 of the Specific Plan (Landscape Guidelines), which would relate to the landscape of the overlying Specific Plan.

The Design Guidelines, provided in Appendix A of the Specific Plan, specify the use of materials such as smooth stucco, wood, and metal roofing, with wood and metal detailing and a mix of rich but muted colors with bold accents to provide vibrancy to the streetscapes. The Specific Plan calls for the use of form-based architecture to create simple structures where gable and shed roofs with tower elements would be used as accents and focal points. The homes would

feature large front porches, balconies, verandas, and porches, recessed garages with a minimum amount of driveway pavement, strong vertical accents, and other features to create visual interest and prevent the monotony of building forms.

The neighborhoods of the Specific Plan are defined by their density, and further described in detail below.

Low-Density Residential

Low-density residential (LDR) neighborhoods would total 555 dwelling units on approximately 114 acres in the Specific Plan area. The LDR neighborhoods would be arranged on a meandering grid with pedestrian and bicycle connectivity between each neighborhood, sidewalks on all streets, and street trees planted along all roads.

The LDR neighborhoods would support more traditional suburban development, similar to existing neighborhoods in the west and southwest of American Canyon, and would be consistent with the Suburban Residential (RS-6500) designation in the City's Zoning Code with a lot size ranging from 4,000 to 6,000 square feet (sf) and a density of one to six dwelling units per acre (du/ac). The LDR neighborhoods would transition from smaller lot sizes near the proposed medium-density neighborhood to larger lot sizes for the neighborhoods located on the northern end of the Specific Plan area.

The LDR units would be primarily front-loaded units, with some alley-loaded units in areas with site constraints. These units would be supported by a mix of private yards on the rear, front, or sides of lots, with shared open spaces for some alley-loaded homes. All units would be provided with two private parking spaces and guest parking would be provided on driveways, streets, and in designated spaces.

Medium-Density Residential

The medium-density residential (MDR) neighborhoods would total 475 units on approximately 52 acres in the Specific Plan area. The MDR neighborhoods would consist of various unit types, including: attached and detached small-lot single-family homes, duplexes, triplexes, fourplex units, condominiums, townhomes, and bungalows, which would be arranged in a rectangular pattern, with sidewalks on all streets, except alleys, and street trees planted along all roads.

The MDR neighborhoods would be representative of denser suburban development, similar to existing neighborhoods to the south of American Canyon Road and east of SR 29, and would be consistent with the Medium Residential (RM) designation in the City's Zoning Code with a minimum lot size of 2,900 square feet and a density of 6.1 to 18 du/ac.

The MDR units would be front-loaded or alley loaded and clustered around auto courts or shared open spaces. The MDR units would also have private yards to the rear, front, or sides of lots and two designated parking spaces with guest parking provided on driveways, streets, and in designated spaces.

High-Density Residential

The high-density residential (HDR) neighborhoods would total 223 units on approximately 9.9 acres in the Specific Plan area. The HDR neighborhoods would consist of townhomes, apartments, and condominiums arranged on a rectangular pattern with sidewalks on all streets and street trees planted along all roads. The HDR units along South Napa Junction Road would have front doors with porches oriented toward the street, and vehicular access would be provided by alleyways.

The HDR neighborhoods would be representative of more urban development, similar to existing apartment complexes located on either side of SR 29, and would be consistent with the High Residential (RH) designation in the City's Zoning Code with a minimum lot size of 20,000 square feet and a density ranging from 18.1 to 27 du/ac.

The HDR units would be supported by a mix of private yards to the rear, front, or sides of lots and open space, and each unit would have two designated parking spaces with guest parking provided on driveways, streets, and in designated spaces.

Inclusionary Housing

The City of American Canyon has an Inclusionary Housing Ordinance (Chapter 19.28 of the City's Municipal Code). Section 19.28.040 of the ordinance requires that residential projects of "for sale" housing containing five or more parcels or units provide at least 10% of the total applicable project units at affordable prices or rents to lower income households. Alternatively, the Project would pay Affordable Housing Nexus Fees for both residential and commercial uses as set forth in Exhibit A of the approving resolution for the revised Inclusionary Housing Ordinance approved in February of 2016.

Mixed Use Area (Napa Valley Ruins & Gardens)

The focal point of the Project would be the mixed use area, which would be known as NVR&G area, located in the southern area of the Project site. The existing configuration of the NVR&G area, including the warehouse building, concrete silos, the power plant, a rotunda, and the quarry pond, are shown in **Figure 3-11**.

As shown in **Figure 3-12**, the NVR&G area would consist of mixed use commercial space surrounded by public open spaces, including plaza areas and passive recreation around the quarry pond. Approximately 200,000 square feet of commercial uses, including up to 50 live-work units,[3] would be developed, including: retail uses, restaurants, mobile food vendors, nightlife venues, wine tasting venues, event areas, artists' studios, and various hospitality uses. A 200-room boutique hotel would also be developed on the eastern end of the NVR&G area. A 20,000 square foot community center site is provided adjacent to the proposed community plaza on the western end of the Mixed Use Area.

[3] The 50 live-work units are included within the overall unit count of 1,253 residential units.

SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-11
Existing Ruins

SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-12
Napa Valley Ruins & Gardens Illustrative Concept

Much of the existing ruins would be incorporated into the development. The development plan would incorporate the three buildings having roof remnants for adaptive reuse as a private and corporate event center (area 1) chapel and wedding area (area 2), restaurant location (area 3), and winery/wine tasting venue(area 4) (the area numbers referenced are provided on Figure 3-12.) Portions of the remaining ruins would provide a framework for potential development within the walls or as sculptural pieces within the plaza. A brewery/brew pub would be located to the northeast (area 14), adjacent to artisan studios (area 20), artisan food shops (area 17), and a café and coffee house (area 18). A 200 room hotel (area 19), hotel parking (area 21) and event parking (area 22) would also be provided to the east.

A two acre community plaza (Area 9) would be a central feature in this portion of the Project, located in the western area of the NVR&G site adjacent to Rio Del Mar. Using the natural topography and the existing concrete monuments to create three adjacent defined subareas, the community plaza would be a flexible public space for a variety of events. The existing silos on the site would be removed as they are not structurally sound, and the area around them would be developed as a passive park and children's play area (area 11). To the south would be the community center site (area 10), and to the east of these uses would be a sculpture garden (area 6) and picnic area (area 7) between separate farmer's market (area 5) and mobile food truck venues (area 8). A mixed use building (area 13) would be provided to the south of this area, and a live/work building would potentially be provided (area 12) to the north.

To the east of the ruins complex would be an area for a community garden (area 16), with an outdoor performance venue located to the north (area 15). The 7 acres surrounding and encompassing the quarry pond (area 24) would be developed into a park offering passive recreation opportunities, including: picnicking, walking, and bird watching. A connection to the River to Ridge trail would also be provided (area 25). A bus stop and shelter would be located on Rio Del Mar (area 23).

Linking all of these uses together would be a series of wide sidewalks that reinforce the geometric nature of the ruins structures and monuments and provide for a walkable environment. Through the use of bollards, sidewalks may also provide vehicle access for event support and emergency vehicle access. The architecture of the NVR&G site would be form-based with clean lines and a contemporary character. Materials would be exposed concrete, steel, and glass with wood detailing. A comprehensive landscape plan would be implemented to blend the structures and the gardens and reinforce the wine country character inherent within the region.

School

The proposed Project provides a 10-acre site for the development of an elementary school for the Napa Valley Unified School District (NVUSD). The school would accommodate around 600 students from Kindergarten through 5th Grade. **Figure 3-13** provides a conceptual (or illustrative) layout of the proposed school, recognizing that the precise layout would be determined during the design process and after adoption of the proposed Project. However, in general, the school site would include a series of classroom and special use buildings, two points of access and egress (sufficient for use by emergency vehicles), two parking areas, and outdoor basketball courts.

SOURCE: Watson Ranch Specific Plan, 2016

Watson Ranch Specific Plan . 130779

Figure 3-13

Illustrative Concept of Napa Valley Unified School District Elementary School

Parks and Open Space

The parks and open space system consists of a series of inter-connected parks and trail types ranging from pocket parks to community parks with linkages to larger regional facilities such as the Vine Trail, River to Ridge Trail and the Newell Open Space Preserve. Most homes within the Project site are no more than one-fourth mile walking distance from a park, natural open space area, or trail alignment. **Table 3-1** shows the proposed park and open space features, which are also shown in **Figure 3-14** and further described below.

TABLE 3-1
PROPOSED PARK AND OPEN SPACE ACREAGE

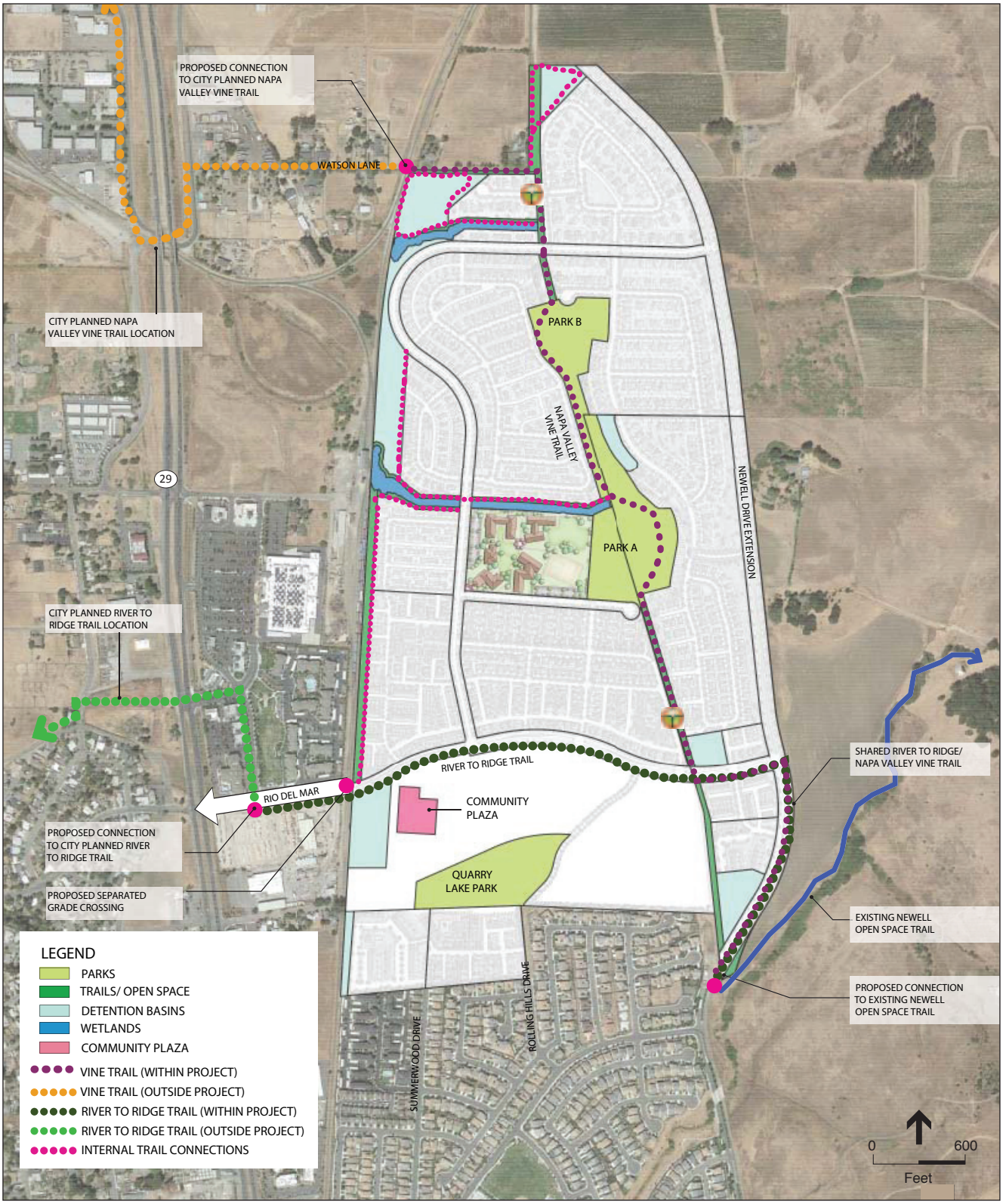
Park and Open Space Type	Acreage
Parks (Includes Park A, Park B, and Quarry Lake Park)	22.0
Community Plaza (includes site for Community Center)	2
Opens Space / Trails	8.1
Detention basins	17.1
Wetlands	3.7
Total	52.9

SOURCE: City of American Canyon, 2016; U.S. Census, 2015.

While 52.9 acres of park and open space would be provided by the Project, of that acreage, approximately 23.3 acres would be credited as public park or open space amenities (given that some areas would not be available for publically accessible use). For example, Park A, Park B, and the Community Plaza would be given full credit as a park and open space amenity, while Quarry Lake Park and the open space and trail system would be given 50 percent credit as a park and open space amenity. Table 4.11-5, which is provided in Section 4.11, *Public Services and Recreation*, provides a detailed assessment of each park and open space amenity, including the total acreage available and the acreage credited towards publically accessible use.

Community Center and Plaza (+/- 2.0 acres). The community center site and plaza would be located on the western edge of the NVR&G and would create a public focal point and gathering place at the heart of the new commercial center. The Community Center (area 10) would be developed and owned by the City and available to host community events and activities, while the nearby community plaza (area 9) would be privately owned and maintained, but available for City sponsored events and open to the public at all times. The plaza would include hardscape features, areas for seating such as benches or low walls, landscape and lawn areas, and a small stage or performance platform. Events may be held at the plaza, which could include free concerts, movies shown on movable screens, and other City sponsored events such as festivals. The plaza would also include areas for children to play.

Quarry Lake Park (+/- 6.7 acres). The Project would add passive recreation amenities around the quarry pond. The park would be privately owned, but accessible to the public. Quarry Lake Park would include the existing quarry pond, which comprises approximately 3 acres, and an



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-14
Parks, Trails, and Open Space

additional 3.7 acres surrounding the lake (see Figures 3-11 and 3-12). Quarry Lake Park would include a continuous looped trail system with benches and resting spaces along the trails at important focal points and intersections. The lake would be integrated into the Project's stormwater detention management system, and, therefore, the surface of the lake would not be accessible for any recreational purposes. Aeration for the lake would be provided as both a visual amenity and to maintain water quality.

Park A/School Park (+/- 7.9 acres). This park would be located immediately adjacent to the elementary school and on both sides of the existing PG&E gas line easement (see Figures 3-13 and 3-14). The park would be programmed for both passive and active uses. Active recreation uses could include youth soccer fields, little league baseball fields, volleyball and basketball courts, a community garden, picnic areas, and a variety of children's play areas. The park would have some night lighting features for safety and security purposes. Park A would include amenities such as pathways, seating, trash receptacles, bicycle racks, and drinking fountains. Enhanced paving may be used at entry nodes and seating areas. Park A would be connected to the other proposed Parks, and existing regional trails, by a greenway that would run along the PG&E gas line easement and along the eastern edge of Park A.

Park B (+/- 7.5 acres). Park B would be located north of Park A, also straddling the PG&E gas line easement (see Figure 3-14). Park B would include active and passive turf areas, volleyball and basketball courts, a community garden, picnic areas, and a children's play area. Park B would also be enhanced by amenities such as pathways, seating, trash receptacles, bicycle racks, and drinking fountains. Lighting will be used sparingly for pedestrian circulation and as accent lighting. Park B includes a wide linear greenway that would run along the PG&E gas line easement extending south and connecting to park A. The Napa Valley Vine Trail runs through this extension of Park B.

Open Space and Trails (+/- 8.1 acres). A connection to the Napa Valley Vine Trail would be provided at the northwest corner of the Project site, and the onsite trails and parks would extend the length of the PG&E gas line easement, running through Parks A and B, before terminating at a connection to the existing Newell Open Space Trail at the southeast corner of the Project site. The Project would also include a connection to the River to Ridge trail, a segment of the Bay Area Ridge Trail, on the western side of the site at Rio Del Mar and on the east at the Newell Open Space Trail connection. In addition, un-programmed open space and pocket parks oriented toward passive recreation would be located along the periphery of the Project site and in transitional landscape areas.

Detention Basins and Wetlands (+/- 20.8 acres). The proposed stormwater detention basins and existing wetlands (see Figure 3-7) would provide un-programmed open space. As illustrated by Figure 3-14, the Project would include seven stormwater detention basins, which would be located at the northern tip of the Project site; along the western edge of the property adjacent to the railroad; along the western edge of the property, just south of Rio Del Mar; in between Park A and Park B and to the east site; in the southeastern portion of the Project adjacent to the internal greenway/trail, just north of Rio Del Mar; and at the southeastern tip of the Project site near the Newell Drive extension and internal greenway, just south of Rio Del Mar. The detention basins are designed to be multi-use, detaining stormwater during the wet months and providing space for

some recreational activities in the dry season. The Project would also preserve two seasonal onsite wetlands, which are located to the north and west within the site. A buffer area would protect the existing sensitive areas from the multi-use trails. The multi-use trails would connect to the larger trail network.

Design Guidelines

Appendix A of the Specific Plan contains Design Guidelines, which are intended to assist the City in evaluating the conformance of individual projects to the objectives and design vision of the Project. The Design Guidelines establish a range of encouraged design approaches, while allowing for flexibility and innovation. The Project intends to create a unique, memorable identity to reinforce the City of American Canyon as a destination within the wine country of Napa County, by using simple forms with an architectural palette that speaks of the wine country culture in Napa Valley.

The Design Guidelines address each proposed land use in the Specific Plan, describing preferred architectural features and materials, landscaping features, lighting, streetscapes, walls, and fencing materials for all projects proposed on the site. The Design Guidelines also provide guidance for the installation of unique signage and public art throughout the Project area, including possible locations for monumental landscape features to be installed at street intersections.

Section A.2 contains the Sustainability Design Guidelines, which guide the Project toward achieving a high degree of sustainability through conservation of energy and water and the reduction of vehicle miles traveled and solid waste disposal, among other things. Section A.3 contains the Landscape Strategy, which prioritizes the installation of edible landscaping, encourages low-impact development (LID) stormwater management techniques that use vegetation and open space to optimize natural hydrologic processes to reduce stormwater runoff, promotes the use of efficient irrigation systems and drought tolerant plantings, encourages buildings and landscapes to be designed to maximize building heating and cooling during the seasons, and provides a suggested plant list for different land uses within the Specific Plan.

The Project also integrates Crime Prevention Through Environmental Design (CPTED) principles in the design process to enhance safety throughout the community, through: natural surveillance through design features that enhance visibility around buildings; natural access control through the use of doors, shrubs, fences, and gates to create physical barriers; territorial reinforcement that employs sidewalks, landscaping, and porches to distinguish between public and private areas; and care and maintenance to avoid deterioration of spaces (see Section A.8).

Buildout Projections

For the purposes of environmental review, the proposed development program represents a reasonable build-out scenario under the Specific Plan and is used to evaluate the potential build out impacts of the proposed Project. The buildout projections from the proposed development program are shown in **Table 3-2**.

TABLE 3-2
MAXIMUM BUILDOUT PROJECTIONS

Land Use	Land Area (Acres)	Residential (Units)	Commercial/ Civic (sf)[1]	Lodging (rooms)	Approx. Jobs[2]	Approx. Population[3]
Residential Uses	**175.9**	**1,253**	**-**	**-**	**-**	**4,298**
Low-Density Residential (1-6 du/ac)	*114.2*	*555*	-	-	-	*1,904*
Medium-Density Residential (6.1-18 du/ac)	*51.6*	*475*	-	-	-	*1,629*
High-Density Residential (18.1-27 du/ac)	*9.9*	*223*	-	-	-	*765*
Total Napa Valley Ruins & Gardens Uses	**38.2**	**-**	**219,056**	**200**	**645**	**-**
Retail/office	*21.8*	-	*21,188*	-	*233*	-
Restaurant		-	*11,790*	-	*166*	-
Winery/Brewery		-	*8,935*	-		-
Wedding and Event Center (indoor)		-	*40,201*	-	*29*	-
Wedding and Event Center (Outdoor)		-	*31,009*	-		-
Amphitheater		-	*12,466*	-	-	-
Mixed Use		-	*29,560*	-	-	-
Outdoor Food/Retail		-	*31,085*	-	-	-
Mobile Culinary Truck		-	*12,822*	-	-	-
Community Center		-	*20,000*[5]	-	-	-
Optional Live-Work units[6]		*50*	-	-	-	-
Hotel	*16.4*	-	-	*200*	*217*	-
Parks and Open Space	52.9	-	-	-		-
School	10.0	-	-	-	21	-
Right-of-Way (includes onsite roads and easements)	31.9	-	-	-	-	-
Total Onsite Project Buildout	**308.7**[7]	**1,253**	**219,056**	**200**	**666**	**4,300**[4]
Offsite Roadway and Utility Improvements[8]	13.0	-	-	-	-	-

NOTES:
1 Square footage does not include area associated with lodging rooms or residential units.
2 The job generating factors used include: Commercial (350 sq. ft./job), Hotel (1 job/room), and School (19.3 students/job at 600 students).
3 The population generation is based on the average household size for American Canyon of 3.43 people per household, which is a conservative assumption. Is it possible that the Project could generate closer to 3,750 residents based on the smaller housing units proposed for the Project site and other current market trends, as discussed in Section 4.10, *Population and Housing*.
4 Rounded up from 4,298 to 4,300 for use in the EIR analysis.
5 Assumed square footage for analysis. Actual community center is not a part of the Project.
6 Up to 50 potential live/work units are included as part of the overall residential unit count for the site. If developed, the live-work units would be constructed in-lieu of other types of residential units.
7 Rounded up to 309 acres for use in the EIR analysis.
8 Approximately 13.0acres of land would be disturbed as a result of constructing various offsite improvements, including roadway improvements associated with the extension Newell Drive and Rio Del Mar; utility improvements in South Napa Junction Road, SR 29, and an area between South Napa Junction Road and Rio Del Mar; and water tank, water line, and roadway improvements in the hills to the south east of the site (see Figure 3-4).

SOURCE: City of American Canyon, 2016; US Census, 2015.

Transfer of Dwelling Units

The transfer of dwelling units between land use areas is permitted provided that there is no net increase to the total dwelling units permitted in the Specific Plan Project. A revised Land Use Plan, Land Use Summary Table, Phasing Plan, and Schedule must be submitted to the City of American Canyon for each proposed transfer of dwelling units.

Transportation and Circulation

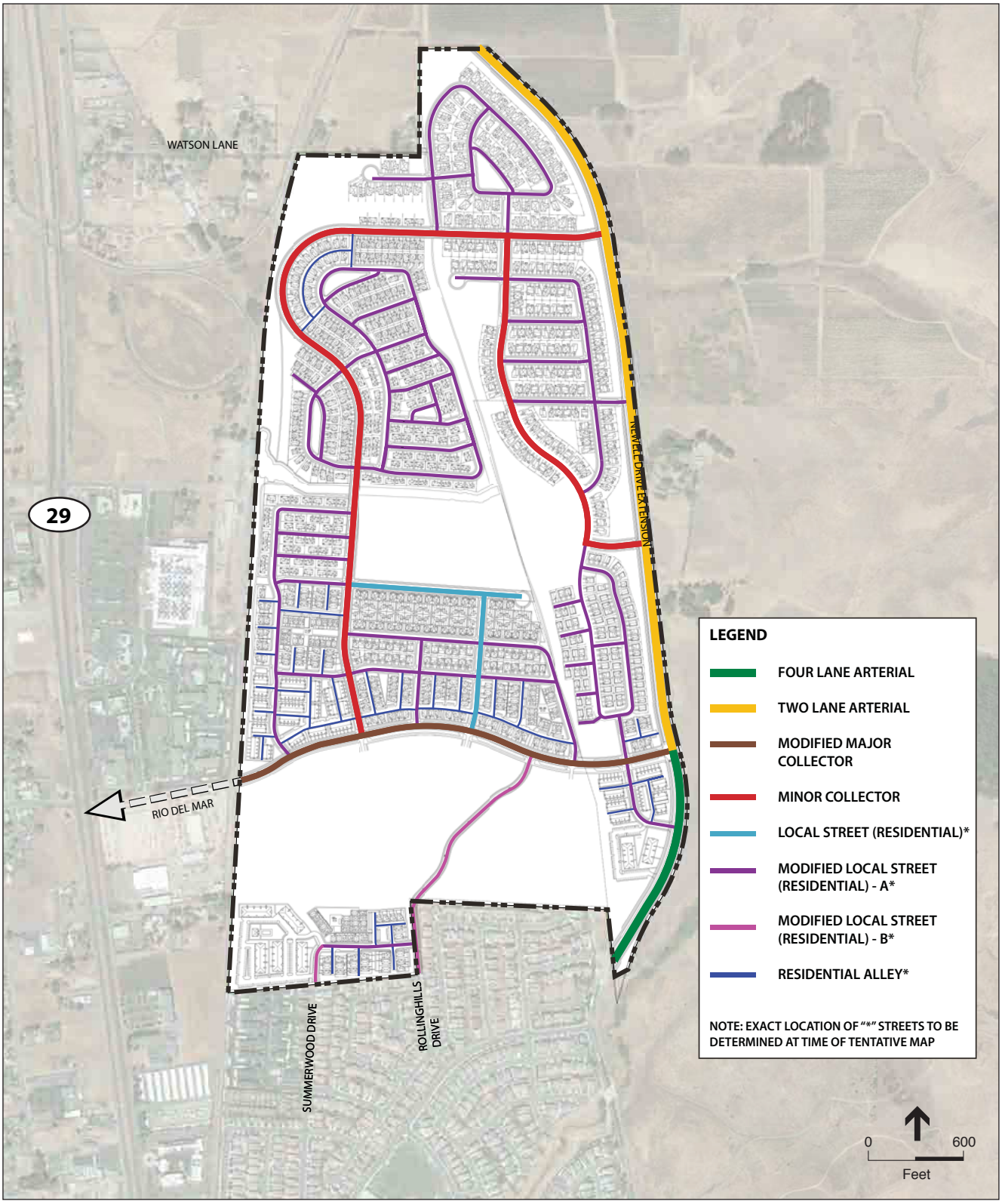
On-Site Transportation and Circulation Improvements

The proposed Project would include a hierarchy of streets, walkways and trails throughout the Project site, as shown in **Figure 3-15**. Arterial and collector streets would provide the primary circulation routes. Local streets would provide a network of neighborhood-serving streets. The Project includes a series of modified streets, which would be used in specific locations within the Project site subject to approval at tentative map stage. The following is a description of the primary circulation improvements.

Newell Drive (Four-Lane/Two-Lane Arterial). Newell Drive would extend north along the eastern perimeter of the Project site from the Vintage Ranch neighborhood just south of the Project site, to the northern Project boundary. The Newell Drive Extension would consist of a 72-foot road section within a 100-foot right-of-way. South of Rio Del Mar, the Newell Drive extension would be a four-lane arterial, consisting of two vehicular lanes in each direction separated by a 12-foot landscaped median. The southern segment of Newell Drive would include 8-foot-wide sidewalks separated from the travel way by 6-foot-wide landscaped parkways, and 5-foot-wide bike lanes. North of the intersection with South Napa Junction Road, the Newell Drive extension would consist of two travel lanes, one in each direction, with a 36-foot-wide landscaped median, 8-foot-wide sidewalk, 6-foot-wide landscaped parkway, and 5-foot-wide bike lane.

Rio Del Mar Road Extension (Modified Major Collector). Rio Del Mar would be extended from SR 29 through the Project site to the Newell Drive extension. The Rio Del Mar extension would be a two-lane modified collector consisting of a 74.5-foot-wide road section within a 104.5-foot right-of-way that would accommodate two 12-foot-wide travel lanes, 5-foot-wide on-street bike lanes and 8-foot-wide parking bays on the north side, with the potential for 18.5-foot diagonal parking spaces on the south side along the frontage of the Mixed Use Area (NVR&G).

The roadway would have a vertical curb and gutter, and curb returns with a 20-foot radius. A 6-foot-wide sidewalk would be provided on the north side of the street and separated from the travel lanes by a 6-foot-wide parkway strip. On the south side of the road would be the River to Ridge Trail, consisting of a 10-foot-wide multi-purpose trail for pedestrians and bicycles, separated from the parking areas by an 8-foot-wide parkway strip.



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-15
Circulation Plan

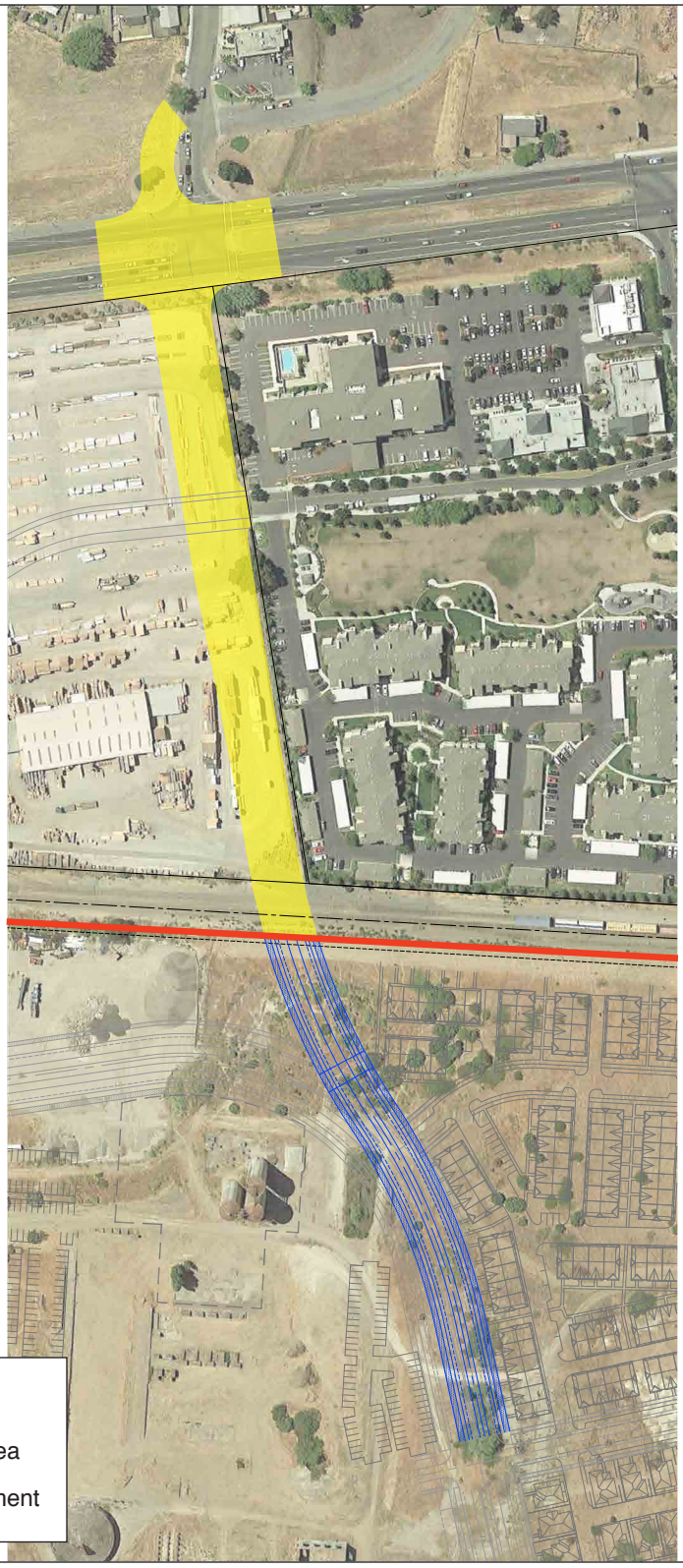
Alternatively, as this street borders the NVR&G mixed-use area, the street edge would have an urban character with tree wells rather than a continuous parkway strip. Depending on site constraints the right-of-way may be reduced in certain sections of the roadway by converting the diagonal parking to parallel spaces or by removing the parking altogether.

Off-site improvements include an extension of Rio Del Mar as a major collector, from its current terminus at SR 29 to the western boundary of the Project site with a new grade separated railroad crossing underneath the existing Union Pacific Railroad (UPRR) line. The Rio Del Mar/SR 29 intersection would be improved to include a third through lane in each direction on SR 29 (both northbound and southbound); a new westbound leg, which would consist of two left turn lanes and a shared through/right turn lane; and restriping of the eastbound leg to provide a shared through/right turn lane (as opposed to a right turn only lane). The third through lane on SR 29 would be provided from Rio Del Mar to Eucalyptus Drive. Traffic signal modification would occur at both intersections.

The extension of Rio Del Mar from the Project's western boundary to the intersection at SR29 will require acquisition of right of way from the Adobe Lumber site property owner. The extension of Rio Del Mar will also involve an intersection with main street, which runs parallel to SR29. These improvements will require acquisition of right-of-way anywhere from 90 to 120 feet in width across the northern edge of the Adobe Lumber site. The Project Applicant will be responsible to initiate the right of way acquisition by private agreement. In the event that it is necessary, the City has the option of using eminent domain proceedings to assist in the acquisition of right of way, although the total cost of right of way acquisition will be borne by the Project Applicant. If for any reason the Rio Del Mar extension is prevented as a result of failure to acquire right of way or secure the necessary approvals, this EIR analyzes the alternative of utilizing the South Napa Junction Road at-grade crossing as reflected in the current General Plan Circulation Element.

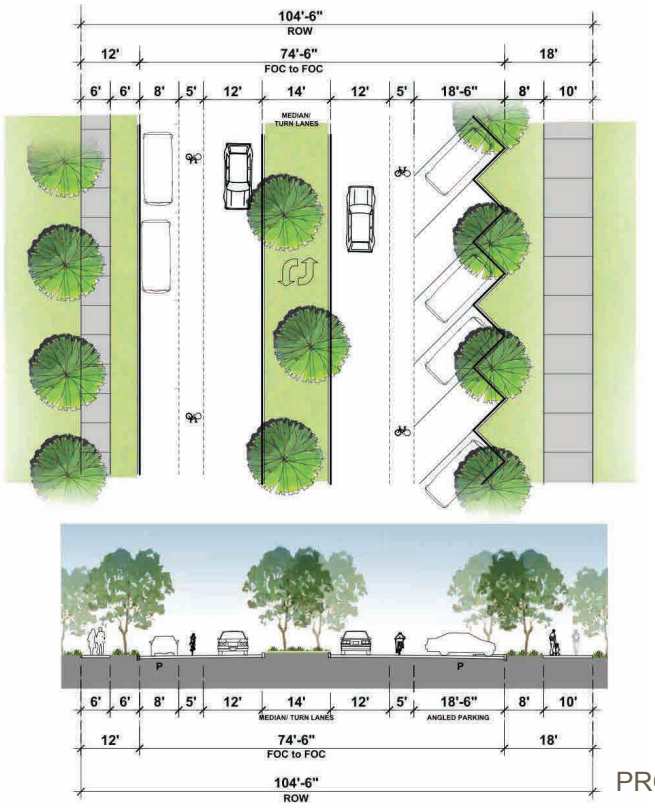
Figure 3-16 illustrates the offsite improvements of Rio Del Mar, extending from within the Project site to its connection to the existing SR 29 intersection. The street would be grade-separated from the UPRR line, crossing under the tracks. **Figure 3-17** shows a plan view and typical section of Rio Del Mar, as well images of a representative undercrossing of G Street in Merced, California, which illustrates how this undercrossing is intended to appear.

Loop Road/Minor Collector (Linking Rio Del Mar to Northern Newell Drive). A two-lane minor collector would provide a north to south connection through the Project, linking Rio Del Mar to north end of Newell Drive within the Project area. The street section would consist of a 50-foot-wide road section within a 74-foot right-of-way that would accommodate two 12-foot-wide travel lanes, 5-foot on-street bike lanes and 8-foot-wide parking bays. The roadway would have a vertical curb and gutter, and curb returns with a 20-foot radius. The minor collector would include 6-foot-wide sidewalks on both sides of the street, separated from the travel lanes by a 6-foot-wide parkway strip.



SOURCE: CBG, 2015; ESA, 2016

Figure 3-16
Location of Onsite and Offsite Rio Del Mar Improvements



PROPOSED SECTION

IMAGERY: G STREET, MERCED, CA

SOURCE: Dahlin Group, 2015; Watson Ranch Specific Plan, 2016

Figure 3-17
Rio Del Mar Proposed Section and
Representative Undercrossing Illustration

Local Street (Residential). The Local Street (Residential) is the city standard for residential neighborhoods. It would consist of a 40-foot-wide road section within a 64-foot right-of-way. The paved section could accommodate two travel lanes and on street parking on both sides in designated parking bays. The roadway would have a vertical curb and gutter, and curb returns with a 20-foot radius. A 6-foot-wide sidewalk would be provided on both sides and separated from the parking areas by a 6-foot-wide parkway strip. Direct vehicular access would be permitted from residential lots to the street.

The following local streets are unique to the Watson Ranch Specific Plan and would be used within the residential neighborhoods subject to review and approval at the tentative map stage.

Modified Local Street (Residential)—A. This road type would provide access within the neighborhoods, consisting of a 36-foot-wide paved section within a 58-foot right-of-way. The paved section would accommodate two travel lanes with on-street parking on both sides. The roadway would have a vertical curb and gutter, and curb returns with a 20-foot radius. A 5-foot-wide sidewalk would be provided on both sides of the road and separated from the parking areas by a 6-foot-wide parkway strip. Direct vehicular access would be permitted from residential lots to the street.

Modified Local Street (Residential)—B. This road type would provide access to homes within the HDR or MDR neighborhoods. This street would have a 24-foot-wide paved section that would accommodate two travel lanes with pedestrian areas delineated by 5-foot-wide walkways, separated from the roadway by 6-foot-wide planting strips.

Modified Local Street (Residential)—C. This road type would provide a 20-foot-wide paved section within a 40-foot right-of-way, with a 10-foot-wide travel lane in each direction, and a 12-foot-wide paved walkway that would accommodate the Napa Valley Vine Trail. No on-street parallel parking would be allowed.

Cul-de-Sac. The cul-de-sac would be used at the end of neighborhood streets to serve as vehicle turn around areas. The bulb of the cul-de-sac would be located in a right-of-way that is 114 feet

in diameter. The paved driving surface would be 90 feet in diameter. The curb radius to the connecting neighborhood street would be 17 feet. No parking would be permitted within the cul-de-sac. A 6-foot-wide sidewalk would be provided, and separated from the street by a 6-foot-wide planting strip.

Residential Alley. Private alleys would be provided as warranted and generally located behind residential lots, to provide service access and resident vehicular access to garages. Residential alleys would have a minimum travel way of 20 feet within a 20-foot access easement or right-of-way. Garage doors would be setback a minimum of 14 feet from the centerline of the paved surface. No resident or guest parking would be allowed within the alley except in designated parking spaces or full-length driveway aprons.

Parking

Parking for the residential land uses would meet all requirements established in the City's Zoning Ordinance, for each residential land use type. **Table 3-3** outlines the vehicle parking requirements by land use type according to § 19.21.030 (vehicle parking requirements) of the City's Municipal Code. These calculations assume no shared parking.

TABLE 3-3
VEHICLE PARKING REQUIREMENTS

Land Use	Vehicle Parking Requirement[1]	Size (Gross)	Spaces Required
Residential Areas			
Elementary School	0.2 spaces per student	600 Students	120
Single Family Residential	2 spaces per unit	555 units	1,110
Apartment	1.5 spaces per unit	475 units	713
Condominium	1.5 spaces per unit	223 units	335
Total Residential Parking Spaces Required			**2,278**
Total Residential Parking Spaces Provided			**2,278**
Non Residential Areas			
Hotel	1.29 spaces per hotel room	200 Rooms	258
Shopping Center	1 space per 300 square feet of gross floor area	35,968 sf	119
Restaurant / Winery / Brewery	1 space per 100 square feet of gross floor area	20,725 sf	208
Event Space / Amphitheater / Farmers' Market / Food Truck Court / Open Space / Community Plaza	None stated	See Table 4.12-7 on p. X.	--
Community Center	1 space per 100 square feet of gross floor area	20,000 sf	200
Total Non-Residential Parking Spaces Required			**785**
Total Non-Residential Parking Spaces Provided			**1,023**
Total Residential and Non-Residential Parking Spaces Required			**3,063**
Total Residential and Non-Residential Parking Spaces Provided			**3,301**

NOTE:

[1] Parking Requirements by Land Use, § 19.21.030, City of American Canyon Municipal Code. For uses not specified, including hotel and elementary school, requirements derived from ITE Parking Generation, 4th edition.

SOURCE: Fehr & Peers, 2016.

The City of American Canyon has no local ordinance requirement for the number of accessible spaces; however, accessible parking spaces would comply with the requirements of the California Code of Regulations (Title 24 of the State Building Code) or Federal law, where such requirements prevail over State law.

As noted earlier, the event space and amphitheater are anticipated to be primarily utilized on weekends. The event space is likely to host large weddings or corporate events, which is anticipated to support between two and four events per week. The amphitheater is expected to host at most one event per month. The Specific Plan (as well as Mitigation Measure 4.12-3a) requires that a detailed parking management program is prepared to address parking accommodations for large events.

Consistent with the parking requirements of Chapter 19.21 of the City of American Canyon Municipal Code, the Specific Plan details the parking supply that will be provided for the following specific uses:

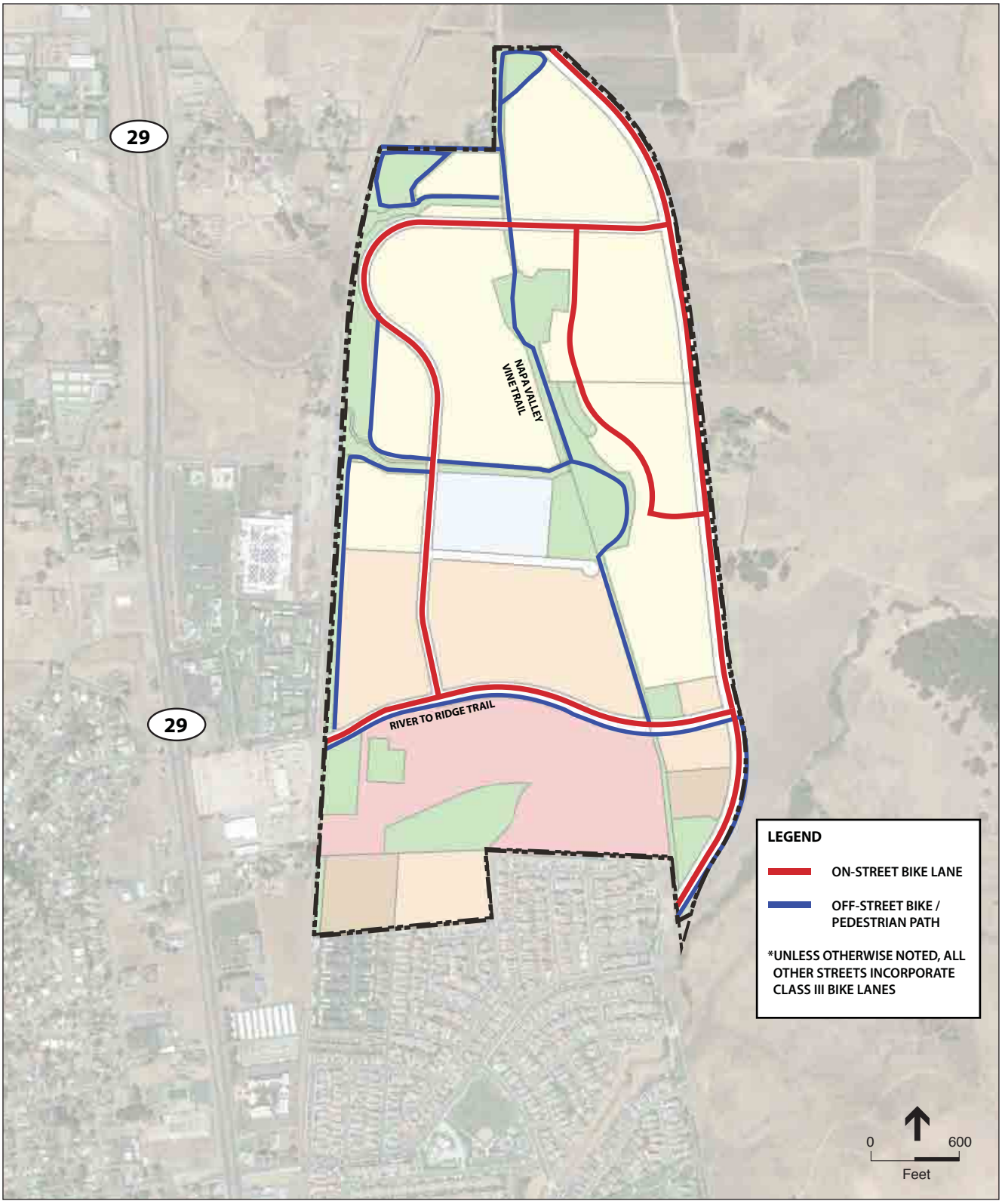
- **Napa Valley Ruins & Gardens:** 1 space for 400 sf of enclosed covered area, and 1 space for 200 sf of outdoor seating area.
- **Hotel:** 1 parking space per room plus 1 space for every 10 rooms; further, the hotel, restaurant, retail, and community center should provide at least 444 vehicle parking spaces.
- **Overflow parking** in parking orchards may be counted towards fulfilling parking requirements.
- **Residential:** Off-street parking requirements shall be in accordance with Chapter 19.21 of the City of American Canyon Municipal Code; in the low- and medium-density residential areas. Compliance with City Code requirements for off-street parking, coupled with on-street parking, likely would be sufficient for the tenants and their guests.

Uses not listed above are also subject to the parking requirements of Chapter 19.21 of the City of American Canyon Municipal Code. While Table 3-3 assumes no shared parking, in order to present a conservative parking demand scenario, the Specific Plan permits shared parking within the Napa Valley Ruins & Gardens, allowing for a reduction of minimum parking requirements for individual uses, as allowed the City of American Canyon Shared Parking Ordinance. On-street parking shall be counted towards required off-street parking spaces in the mixed-use area, and may include parallel angled or perpendicular parking.

Compliance with Chapter 19.21 of the City of American Canyon Municipal Code and the City of American Canyon Shared Parking Ordinance will ensure that parking demand would not exceed the proposed parking supply on a regular or frequent basis and would also not result in an increased use of permanent existing neighborhood parking for area residents.

Bicycle and Pedestrian Improvements and Circulation

Figure 3-18 shows the proposed pedestrian and bicycle circulation within the Project site. Class I multi-use bike paths would be provided on the south side of Rio Del Mar (River to Ridge Trail), separated from the street along the Napa Valley Vine Trail alignment, and near the western boundary of the Project site. Class II bike lanes (separated lanes) would be provided along South Napa Junction Road, Newell Drive, and the Minor Collector streets. All other streets would incorporate Class III bike lanes (shared lanes).



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-18
Pedestrian and Bicycle Circulation

Public Transit

The Project site is located in proximity to several existing bus routes. American Canyon Transit (ACT) has bus lines that run along SR 29, Eucalyptus Drive, Donaldson Way and Newell Drive. In addition, the Napa VINE Route 29 and Route 11 run along SR 29. While the Project site is not currently served by ACT, there is the potential for the extension of transit service, likely in proximity to the NVR&G. **Figure 3-19** shows the existing and potential future local and regional transit routes.

Infrastructure Improvements

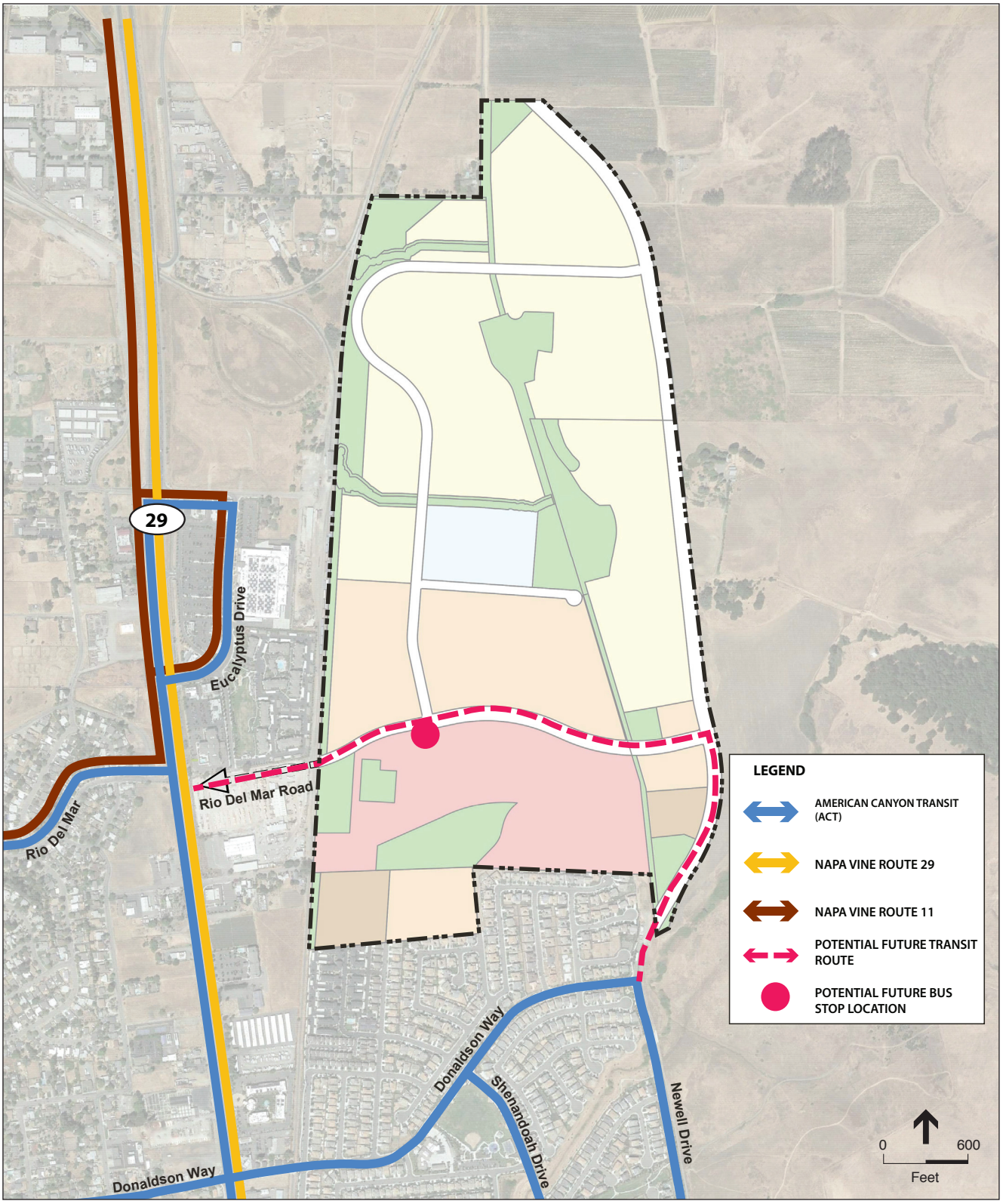
Existing Conditions

The City of American Canyon receives the majority of its water supply from the North Bay Aqueduct, which is managed by the Napa County Flood Control and Water Conservation District. The aqueduct is supplied by water from the Sacramento River watershed, and at times supplemented by water from the City of Vallejo. The City of American Canyon provides wastewater collection and treatment for the Project site. The American Canyon Water Reclamation Facility (WRF) is located along the northwestern edge of the city at 151 Mezzetta Court. Wastewater from the Project site is conveyed to the WWTP via a six-inch sanitary sewer line located in South Napa Junction Road that runs west and south to a 10-inch sanitary sewer line located on the west side of SR 29.

Drainage within the City of American Canyon is generally in a westward direction originating east in the hills of the Sulfur Spring Mountains. The Project site is located in the Rio Del Mar drainage area, which is one of the five primary watercourses that traverse the city. The drainage area begins less than one-half mile east of the railroad. Three small sub-areas discharge under the railroad, where the runoff combines and flows to a culvert under SR 29, just north of Rio Del Mar, where it flows through the City before being released into the Napa River.

PG&E provides electric and gas service within the City of American Canyon. There is a 12-inch steel natural gas transmission line running north to the south through the center of the Project site that was installed in 1930 and has undergone routine maintenance through PG&E's comprehensive inspection and monitoring program that ensures the safety of the pipeline. In addition, PG&E patrols the pipeline quarterly to inspect for pipeline leaks, missing pipeline markers, construction activity, or other factors that may affect safety. PG&E also conducts leak surveys annually. The pipeline uses an active cathodic protection system to protect against corrosion, which is inspected every two months, and the pipelines undergo pressure testing periodically. Development is required to be setback 36 feet on either side of the pipeline.18 inches (minimum) of vertical clearance is also required for crossing utilities.

AT&T provides telecommunication facilities within the City of American Canyon. Comcast provides cable television service within the City of American Canyon. Waste Management of American Canyon provides solid waste collection services within the City of American Canyon.



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-19
Local and Regional Transit

Water Supply and Distribution

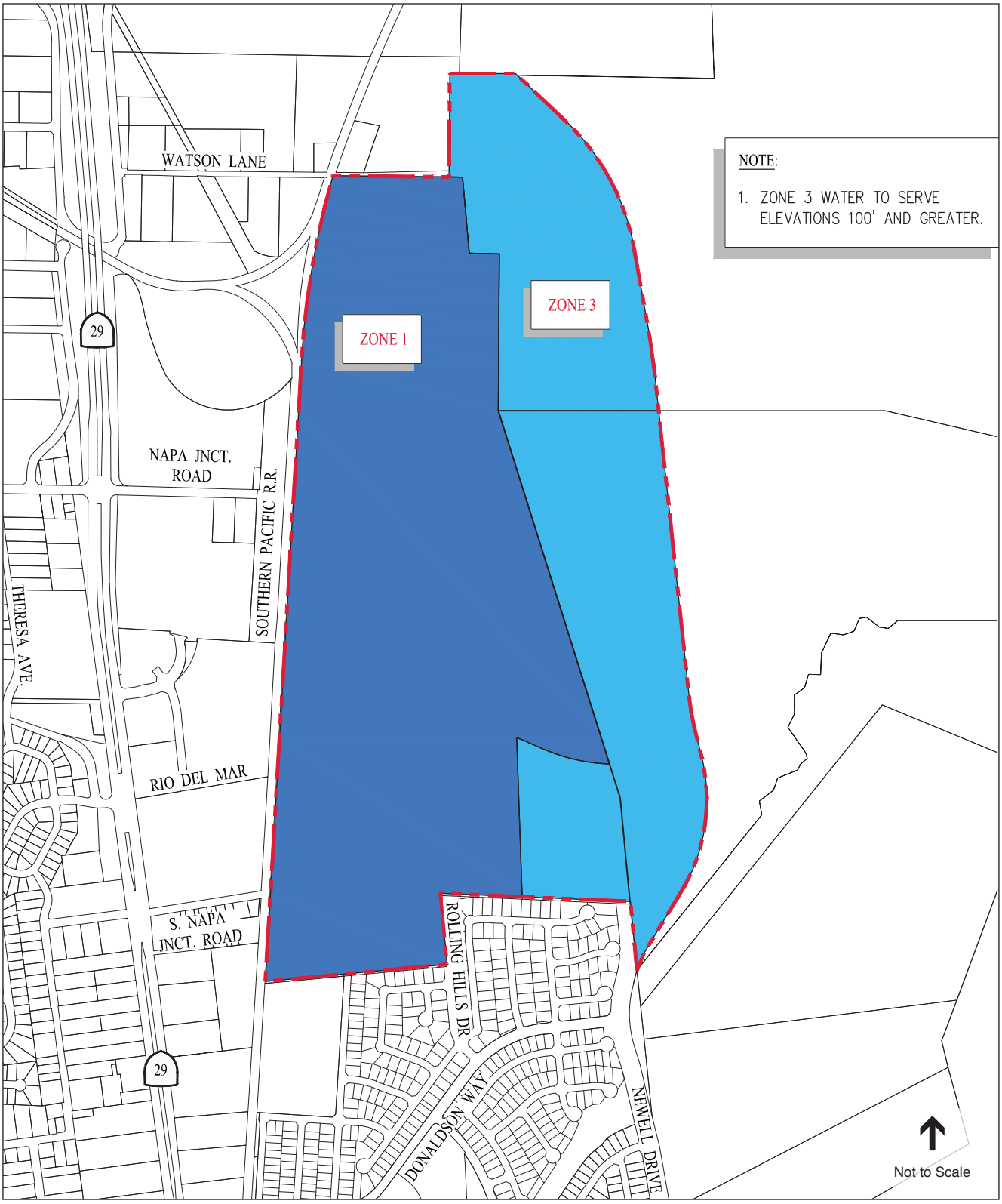
As the City's water provider, the City of American Canyon would provide water service to the Project site. The City currently receives potable water supply from three sources, including State Water Project (SWP) water, permit (raw) water from the City of Vallejo (Vallejo), and treated water from Vallejo.

The proposed Project would have a total water demand of approximately 693 Acre Feet per Year (AFY), of which potable water would comprise approximately 429 AFY and recycled water would comprise the remaining approximately 264 AFY (refer to Appendix I.2, as well as Section 4.13, *Utilities and Service Systems*, for a detailed discussion of water demand and supply). Water demand for the proposed Project would be served using the City's existing and future portfolio of potable and non-potable water supplies. The total projected water supplies would be available during normal, single dry, and multiple dry water years to meet the needs of the proposed Project. In dry water years, the City would implement, among other actions, the use of emergency supplies, consistent with the City's actions in the 2014 and 2015 drought years, water conservation measures in order to meet its water needs (refer to Table 4.13-2 above, as well as Appendix I.2). The Project would also be subject to the City's Zero Water Footprint policy, which requires that all new development completely offset its potable water demand through a combination of some or all of the reduction methods described in Impact 4.13-1 in Section 4.13, *Utilities and Service Systems.*

The Project site is located within two potable water pressure zones (Lower Pressure Zone 1 and Higher Pressure Zone 3), as shown in **Figure 3-20**. Zone 1 provides service to areas within the city ranging in elevation from 50 to 100 feet and is supplied by a 2.5 mg tank at the water treatment plant, which is also connected to a 2.0 mg water tank, known as Oat Hill Tank #1. Zone 1 facilities adjacent to the Project site include: a 6-inch water line located in South Napa Junction Road; a 18-inch water line located on the west side of SR 29; a 16-inch water line located in Newell Drive; a 8-inch water line located in Rolling Hills Drive; and a 8-inch water line located in Summerwood Drive. Zone 3 currently provides service to elevations from 120 to 160 feet, but only provides service west of SR 29. The existing Zone 3 tank is the 0.2 mg Oat Hill Tank #2. The Project would require onsite and offsite improvements to ensure adequate water is provided to all areas of the Project site, which are described below.

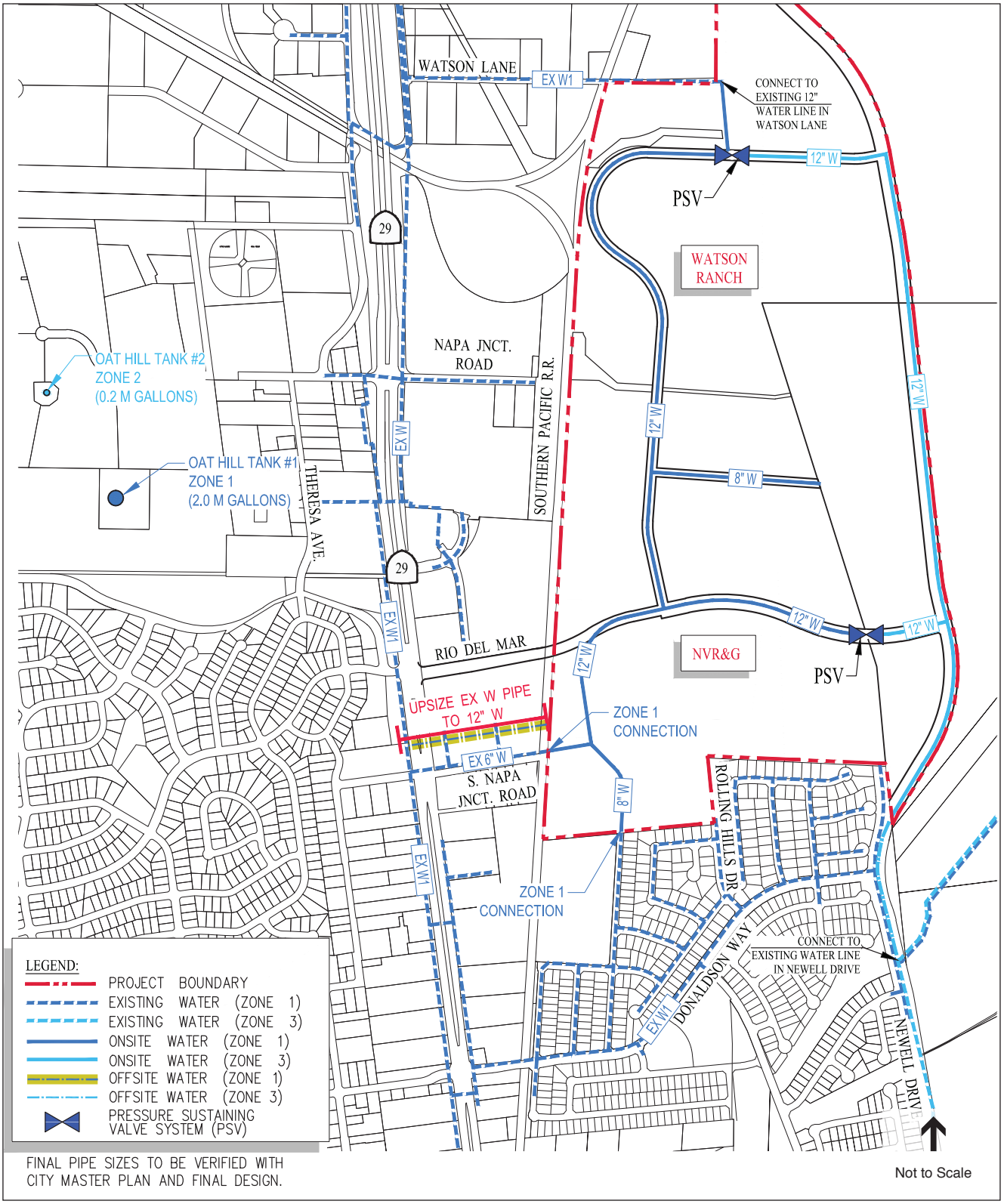
The infrastructure constructed onsite would include water lines ranging in size from 6 to 18 inches, and all necessary fixtures. The onsite improvements would connect to the existing infrastructure lines shown in **Figures 3-21** and **3-22**.

Offsite Water Improvements. Water would be provided to the site with the construction of two new water tanks, one in Zone 1 and the other in Zone 3, to provide adequate water supply to this Project and other future projects in American Canyon. Plans for both tanks have been approved by the City and have been analyzed in the City of American Canyon Public Works Department Proposed Water Tank Sites (2) Mitigated Negative Declaration, adopted April 2004 (SCH #2004042149), and the Final Environmental Impact Report for the American Canyon High School and New American Canyon Middle School and City of American Canyon High Pressure



SOURCE: Watson Ranch Specific Plan, 2016

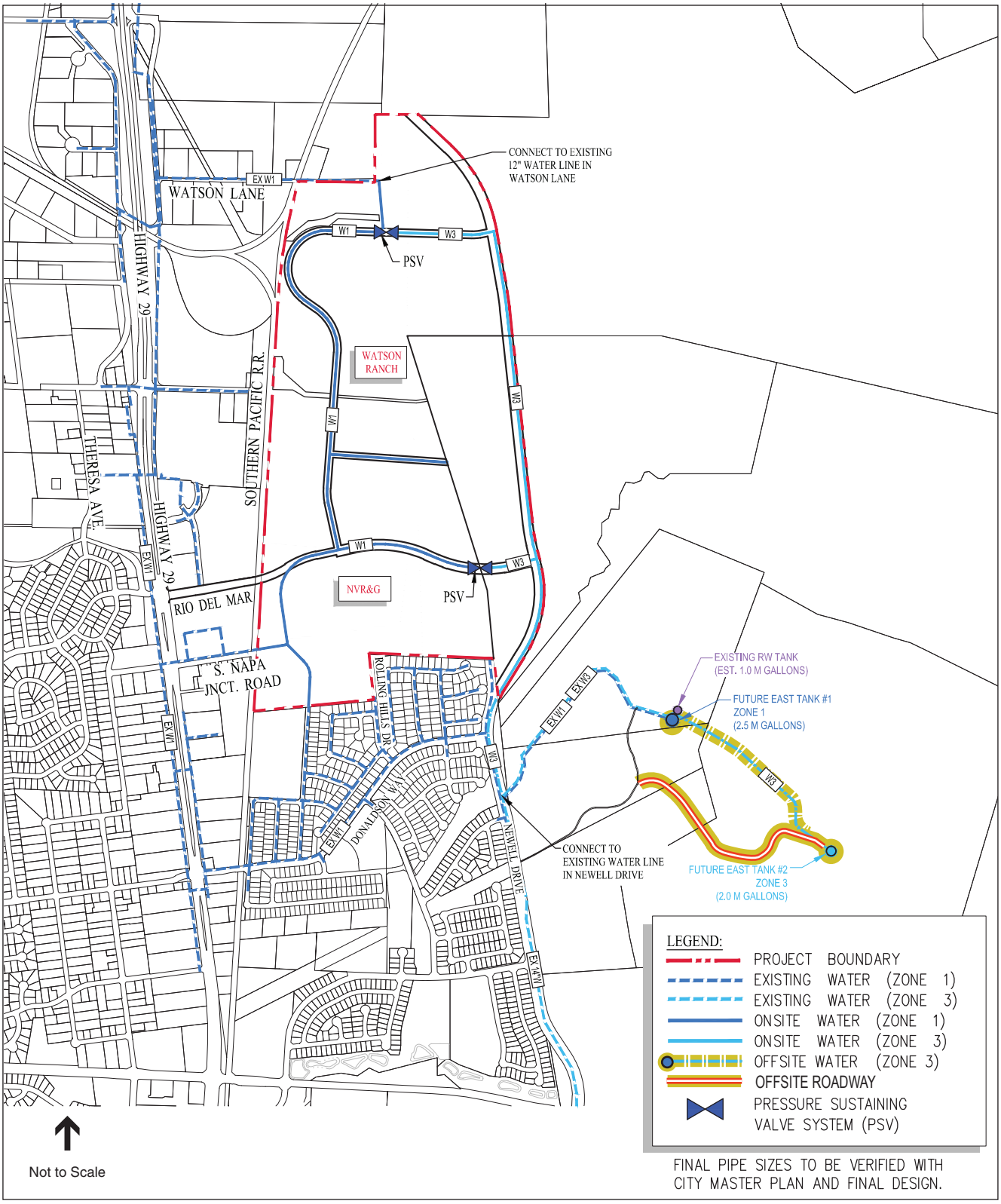
Figure 3-20
Water Service Zones



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-21

Onsite and Offsite Water System Improvements



SOURCE: Watson Ranch Specific Plan 2016

Figure 3-22
Offsite Water System Improvements
(Water Tanks and Associated Improvements)

Water Storage Tank Project, adopted December 2007 (SCH# 2007092014). While the water tanks would be constructed as part of the Watson Ranch Specific Plan Project, they have been planned for, environmentally cleared, and would be required to accommodate other growth in the City, irrespective of this Project.

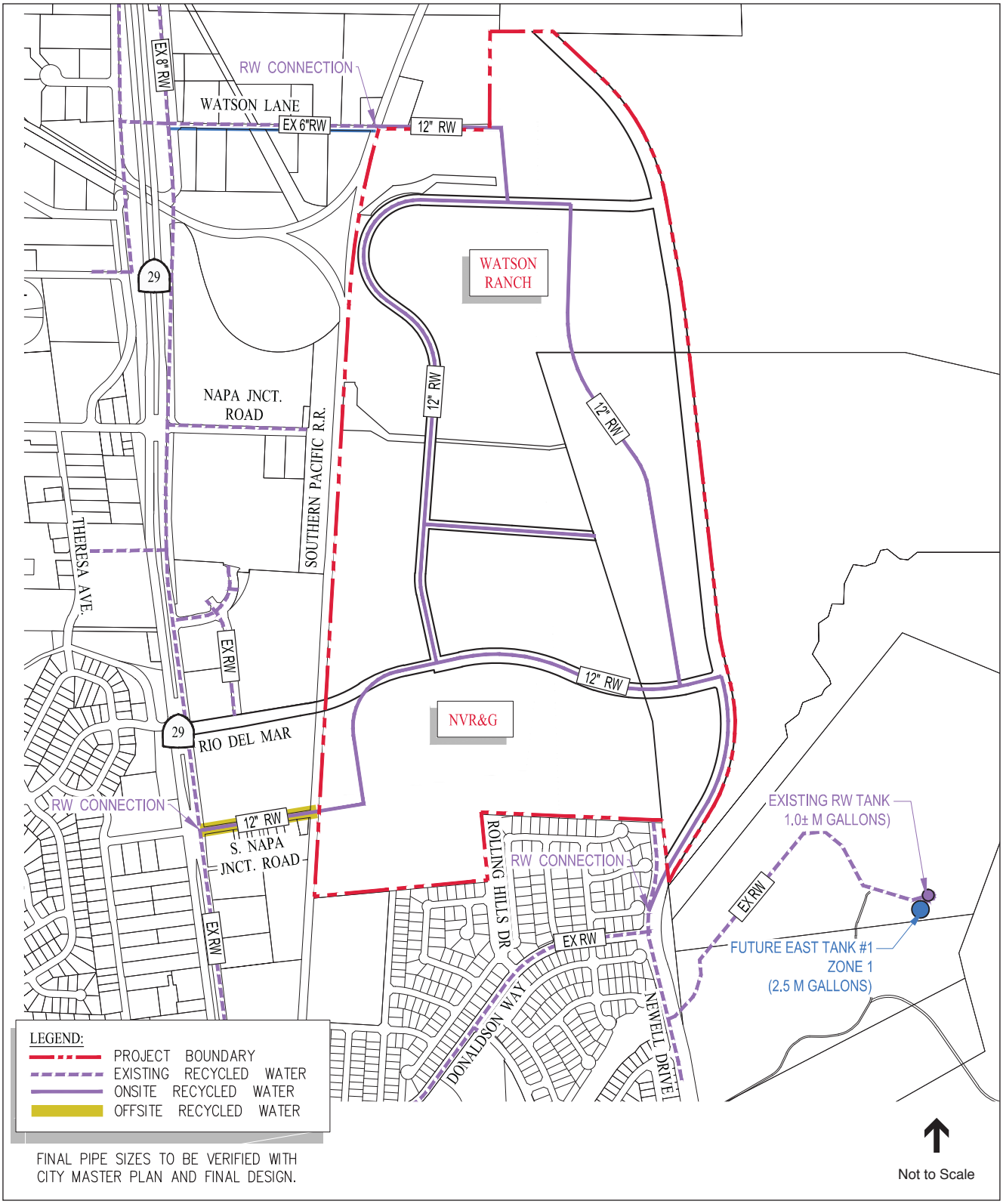
The Zone 1 tank would hold approximately 2.5 million gallons and would be constructed next to the existing Recycled Water Tank, north of the high school and southeast of Watson Ranch (see Figure 3-22). The Zone 3 tank would hold 2.0 million gallons of water and would be installed southeast of the Recycled Water and Zone 1 Tanks. During the installation of the existing recycled water tank, the recycled water conveyance lines for Zone 1 and Zone 3 were installed and connected at Newell Drive. However, the Project would be required to install an 18-inch water line connecting the future Zone 1 and Zone 3 water tanks, as well as a new 12-inch water line connecting the Project site to the existing line in Newell Drive. In addition, an approximately 15-foot wide improved roadway would be provided to the new Zone 3 water tank, as also shown on Figure 3-22. As shown in Figure 3-4, the water tank sites are located on City-owned property; however, the Zone 3 tank, a portion of the 15-foot roadway to the Zone 3 tank, and a portion of the waterline connecting the two tanks are located within the NVUSD Open Space area. The NVUSD Open Space area was established as a California Department of Fish and Wildlife California red-legged frog reserve as part of mitigation for the American Canyon High School Project (Benson Lee Consulting, et al. 2007) (refer to Section 4.3, *Biological Resources*, for a more detailed discussion of the NVUSD open space area).

Other offsite water improvements include upsizing an existing 6-inch water line running parallel to and between Rio Del Mar and South Napa Junction Road, extending from the UPRR tracks (at the western Project boundary) to SR29, to a 12-inch line, as shown on Figure 3-21.

Recycled Water System

In addition to water services, the City of American Canyon would provide recycled water services to the Project site through an existing 12-inch recycled water line within Newell Drive that was installed with the Vintage Ranch Development. This water line is served by an existing 1 mg recycled water storage tank located southeast of the Project site. Recycled water would be used to irrigate all park landscaping, landscaped medians, and landscaping within the NVR&G area and other landscape areas to the fullest extent feasible. The Project would install recycled water conveyance lines throughout the site, as shown in **Figure 3-23**. The Project would also connect to an existing recycled water line that runs within Watson Lane from the UPRR tracks (at the western Project boundary) to SR 29.

Offsite Recycled Water Improvements. The onsite recycled water system would also be connected to the City's system via a new 12-inch line that would be installed in South Napa Junction Road.



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-23

Onsite and Offsite Recycled Water Improvements

Sanitary Sewer

The City of American Canyon would provide wastewater collection and treatment services to the Project site. Wastewater is collected and directed to the wastewater treatment plant on the eastside of the City for treatment. Proposed facilities within the Specific Plan Project site and existing offsite facilities are shown in **Figure 3-24**.

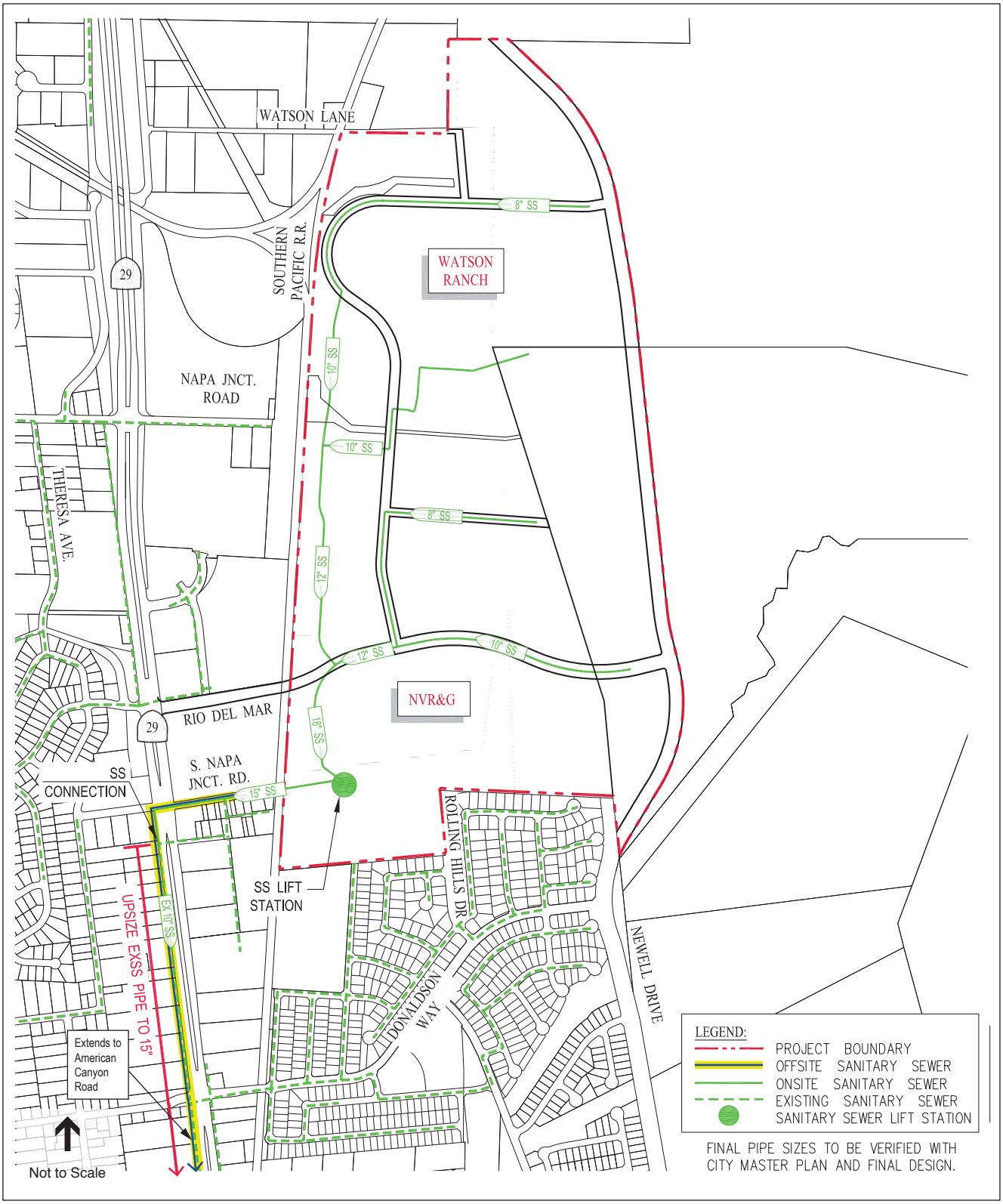
The Project would connect to the existing 6-inch sanitary sewer line in South Napa Junction Road and the existing 10-inch line in SR 29. The Project may also connect to the existing 8-inch sanitary sewer in Summerwood Drive. A sanitary sewer lift station would be required onsite to maintain a gravity sewer system. Gravity sewer lines, ranging from eight inches to 18-inches in size, would comprise the onsite improvements. In addition, an onsite lift station would be installed. All of the facilities would be designed and constructed in accordance with City of American Canyon Standards.

Offsite Sanitary Sewer Improvements. Offsite sanitary sewer improvements include installing a sewer line from SR 29 to the western property boundary of the Project site within South Napa Junction Road. An existing segment of pipe that runs within SR 29 between South Napa Junction Road and American Canyon Road would also be upsized from 10-inches to 15-inches to accommodate the flows from the Project. The Project would, at a minimum, upgrade the segment of the pipe that runs from South Napa Junction Road to Donaldson Way East. The City is planning to upgrade the remaining segment of the pipe that runs from Donaldson Way East to American Canyon Road as part of its capital improvement program; however, if the pipe has not been upsized prior to the start of Project construction, the Project would be required to upgrade the entire length of the pipeline from South Napa Junction Road to American Canyon Road. Therefore, this Project description assumes that the pipe would be upsized from South Napa Junction Road to American Canyon Road.

Storm Drainage System

The drainage pattern within American Canyon is generally in a western direction originating in the hills of the Sulfur Spring Mountains. The Project site is located within two of the five primary watershed areas within the city: North Slough (northern portion of the site) and Rio Del Mar (southern portion of the site). Currently, the UPRR track embankment along the western boundary of the Project site acts to detain the drainage coming off the eastern hills. The drainage is discharged under the tracks through several culverts and box culverts and is ultimately released into the Napa River. **Figure 3-25** shows the onsite and offsite improvements that would support the Project site.

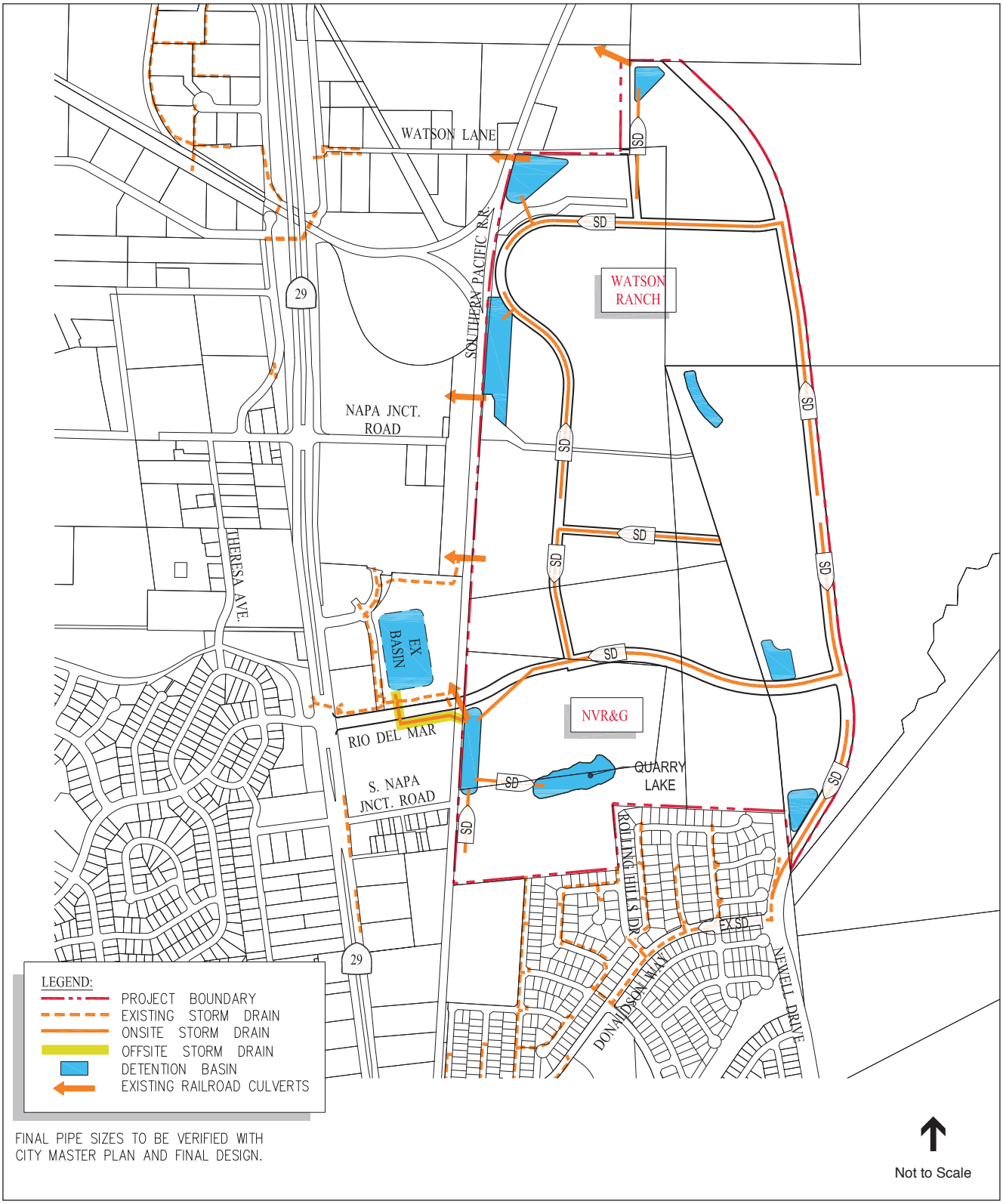
Onsite storm drain facilities would collect site drainage and direct it to seven detention basins, as previously described in the section entitled “Detention Basins and Wetlands.” These detention basins would retain flows onsite, thereby mimicking the existing pattern of drainage and reducing the addition of offsite flows to the City’s existing storm drainage infrastructure. These detention areas would also incorporate stormwater quality features to remove pollutants from stormwater runoff.



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-24

Onsite and Offsite Sanitary Sewer Improvements



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-25
Stormwater Treatment System

In addition to the proposed new detention basins, Quarry Lake Pond would be used for detention purposes as a secondary means of detention for surplus stormwater, with all runoff volume delivered to the pond during events larger than 10-year storm. At these times, the water elevation could rise an additional five feet (maximum), but would be returned to its natural elevation within 48 hours as water is pumped into the City's stormwater system in accordance with the Operation and Maintenance Plan for the site. Should the pumps fail, the entire volume of the 100-year event can be contained in the quarry pond with more than 20 feet of freeboard.

Offsite Stormwater Drainage Improvements. A storm drain pipe would be installed that connects the Watson Ranch Specific Plan detention basin near Rio Del Mar to the existing City detention basin on Main Street, providing a connection between the Project's onsite system and the City's system.

Dry Utilities

Electricity and Gas: PG&E provides electric and gas service to residents and businesses within the City of American Canyon. PG&E would extend the necessary underground utility lines to provide service to new development on the Project site. The proposed Project may include one emergency backup generator that would serve the hotel.

Telecommunications: AT&T would provide telecommunications services to the Project, and appropriate facilities would be included in the underground utility system.

Cable Television: Comcast would provide cable television and related services to the Project, and appropriate facilities would be included in the underground utility system.

Solid Waste

Waste Management of American Canyon would provide solid waste collection service to the Project site.

Preliminary Development Plan

The Project would be developed in four general phases. The Opportunity Phase in the NVR&G area includes two buildings one mixed-use building and one live/work building. These buildings are identified as an Opportunity Phase because the timing of implementation of this component of the Project is uncertain at this time.

Development is expected to begin in the latter part of 2018. Each of the four phases is estimated to last between approximately two to four years, with some overlap between phases; however, because the actual phasing of the Project is dependent on market demand, it is possible that phases may further overlap or be developed concurrently. Buildout is expected to occur by the end of 2025. The phasing is conceptually described in **Table 3-4** and illustrated by **Figure 3-26**. Appendix B.1 (Project Timeline provides a more detail construction schedule for purposes of the air quality and noise analysis.

TABLE 3-4
PRELIMINARY PHASING PLAN[1]

Land Use Category	Units		Description
Phase One (2018-2021)			
Residential	223	Units	High Density Residential
	329	Units	Medium Density Residential
Napa Valley Ruins & Gardens	40,201	square feet	Wedding and Event Center (Indoor)
	31,009	square feet	Wedding and Event Center (Outdoor)
	10,340	square feet	Restaurant
	7,505	square feet	Winery/Brewery
	200	rooms	Hotel
	136,572	square feet	Outdoor Amenities in Napa Valley Ruins & Gardens area
	1.5	Acres	Community Plaza
	20,000	square feet	Community Center
School	10 600	acres students	Prepare school site for construction (i.e., grading, roadway, and utility connections)
Parks and Open Space	• Portion of Park A located to the west of the PG&E easement[2] • Public Trails through Phase 1 neighborhoods and NVR&G area		
Roadways	• Rio Del Mar Extension from SR 29 to the railroad • Rio Del Mar Extension from the railroad to Newell Drive • Rolling Hills Drive Connection • Summerwood Drive Connection • Four lane Newell Drive extension from current terminus to new intersection with Rio Del Mar extension • Construct portion of Loop Road, from intersection with Rio Del Mar extension northwards along the western and southern boundary of the school site • Local streets serving Phase 1 neighborhoods and Phase 1 NVR&G development		
Utility Infrastructure	• Sewer, potable water, and recycled water line extensions and connections to existing systems in South Napa Junction Road and Newell Drive • Sanitary Sewer Lift Station • Offsite Sewer Upgrade in SR 29 • Construction of four stormwater detention basins and stormwater connection to Quarry Lake Pond, including two basins on western boundary and two basins to the east of Newell Drive in southern portion of site • Zone 1 Low Pressure Water Tank (2.5 MG) • Zone 3 High Pressure Water Tank (2.0 MG)		
Phase Two (2020-2025)			
Residential	318	units	Low Density Residential
Napa Valley Ruins & Gardens	1,430	square feet	Winery/Brewery
	1,450	square feet	Restaurant
	1,430	square feet	Retail
	24,164	square feet	Outdoor amenities in NVR&G
	6.7	acres	Quarry Lake Park

TABLE 3-4 (Continued)
PRELIMINARY PHASING PLAN

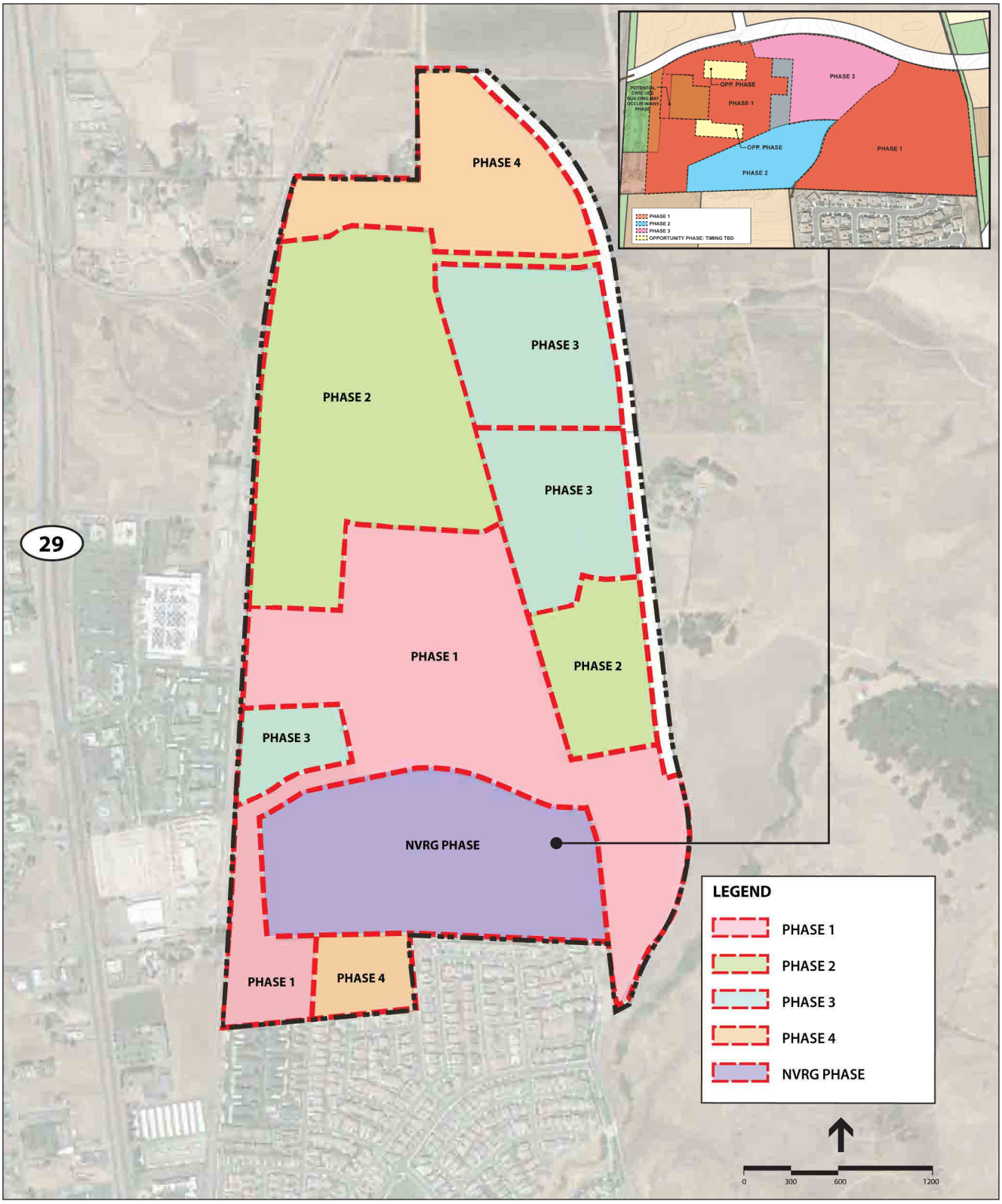
Land Use Category	Units		Description
***Phase Two (2020-2025)* (cont.)**			
Parks and Open Space	• Portion of Park B to the west of PG&E easement[2]		
Transportation	• Extension of Loop Road northwards to serve Phase 2 neighborhoods and eastward to Newell Drive intersection) • Two lane extension of Newell Drive from Rio Del Mar intersection to Loop Road intersection • Local streets serving Phase 2 neighborhoods and Phase 2 NVR&G development		
Utilities	• Extension of utility lines in Phase 2 Roadways • Construction of one additional stormwater detention basin in northwest corner of site		
Phase Three (2022-2025)			
Residential	98	units	Medium Density
	154	units	Low Density
Napa Valley Ruins & Gardens	19,758	square feet	Retail
	12,466	square feet	Amphitheatre
Parks and Open Space	• Portion of Park A to the east of the PG&E easement[2] • Portion of Park B to the east of the PG&E easement[2]		
Transportation	• Local streets serving Phase 3 neighborhoods and Phase 3 NVR&G development		
Utilities	• On-site extension of recycled water line • Construction of final stormwater detention basin to the west of the PG&E easement, roughly in the center of the site		
Phase Four (2023-2025)			
Residential	48	units	Medium Density Residential
	83	units	Low Density Residential
Transportation	• Two lane extension of Newell Drive from Loop Road intersection to northern boundary of the site • Local streets serving Phase 4 neighborhoods		
Utilities	• Construction of one stormwater basin • Extension of sewer, water, and recycled water lines on northern end of site and connection to existing lines in Watson Lane		
Opportunity Phase			
Commercial/Mixed Use	29,560	square feet	Mixed-Use
	32,600	square feet	Live-work (up to 50 units)

NOTE:

1 This table provides a reasonable assumption for the phasing and buildout of the proposed Project, recognizing that individual phases may overlap or occur sequentially depending on the market demand for individual uses.

2 The analysis assumes a portion of Park A is developed in Phase One, a portion of Park B is developed in Phase Two, and the remainder of both parks are developed in Phase Three; however, Park A and Park B could be constructed in a single phase in accordance with the need generated by the construction of new homes.

SOURCE: Watson Ranch Specific Plan, 2016.



SOURCE: Watson Ranch Speciifc Plan, 2016

Figure 3-26
Development Phasing

The phases group together interrelated components of the overall development scheme, such as neighborhoods with similar density and design, related commercial and civic uses in the NVR&G area, and infrastructure improvements to support new development as each phase is constructed. The NVR&G area will be developed in conjunction with Phases 1, 2, and 3, and it also provides for the Opportunity Phase.

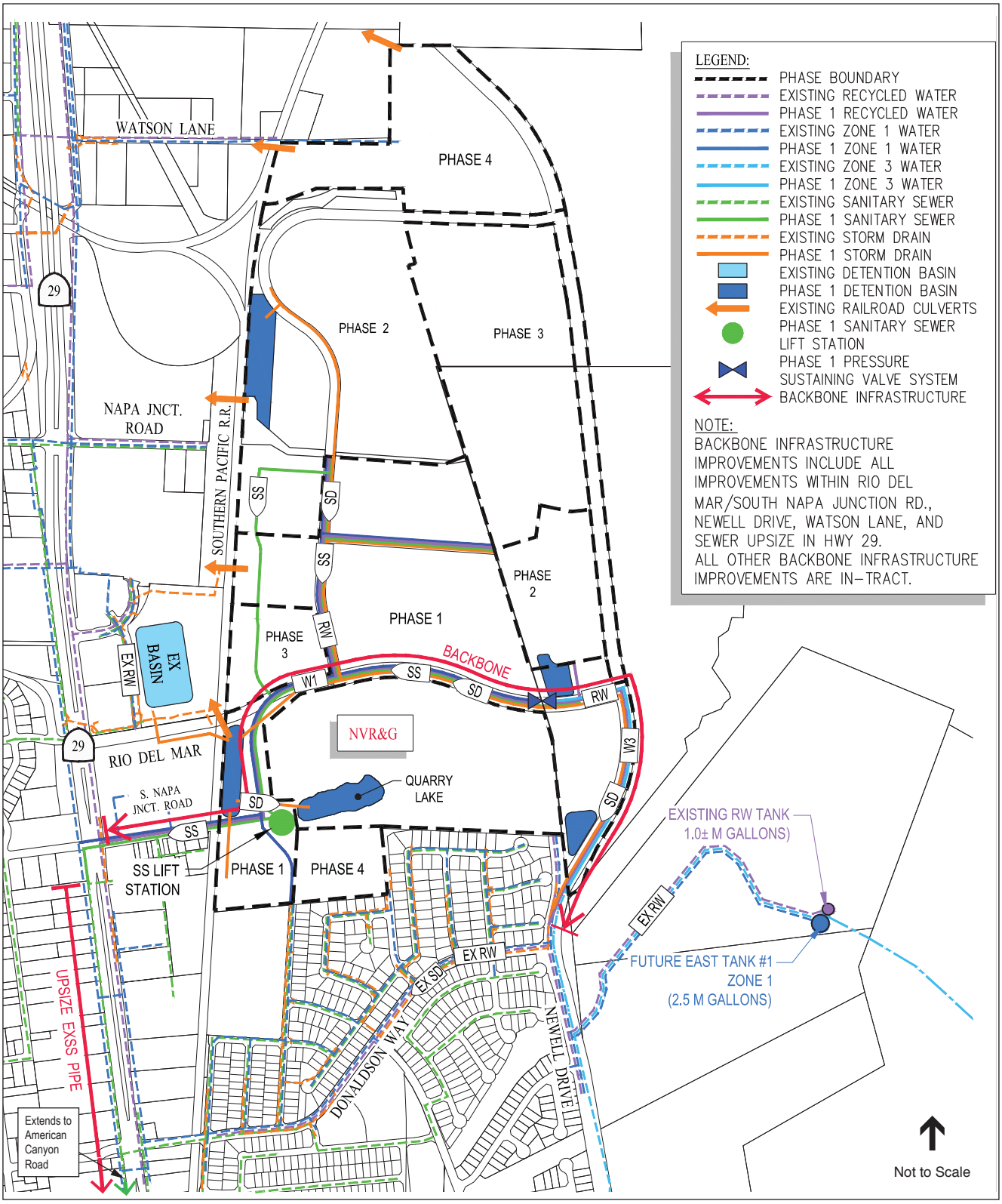
Preliminary Phasing Plan

The Project would develop utility infrastructure in corresponding phases designed to provide each new development phase with the necessary water, sewer, recycled water, and storm drainage services. All offsite improvements would be constructed prior to or in conjunction with the construction of onsite improvements. **Figures 3-27** through **3-2-30** show the proposed utility infrastructure phasing, while **Figure 3-31** shows the roadway phasing. The roadways make up the backbone of the circulation system and include the on and offsite regional network roads (SR 29, Rio Del Mar and Newell Drive), and the minor collector neighborhood loop road. The phasing plan and information provided in this EIR relies on the information provided in Chapter 9, Implementation, of the Watson Ranch Specific Plan.

Demolition and Construction Plan

As discussed, the Project would be developed over four primary phases. Each phase would include demolition a mass grading operation and installation of the infrastructure to serve each site, followed by construction of the buildings in each neighborhood and respective NVR&G area. All grading soils would be retained on site. Section 4.2, *Air Quality*, and the associated air quality appendices (Appendices B.1 and B.2) provide additional detail regarding specific construction-related assumptions.

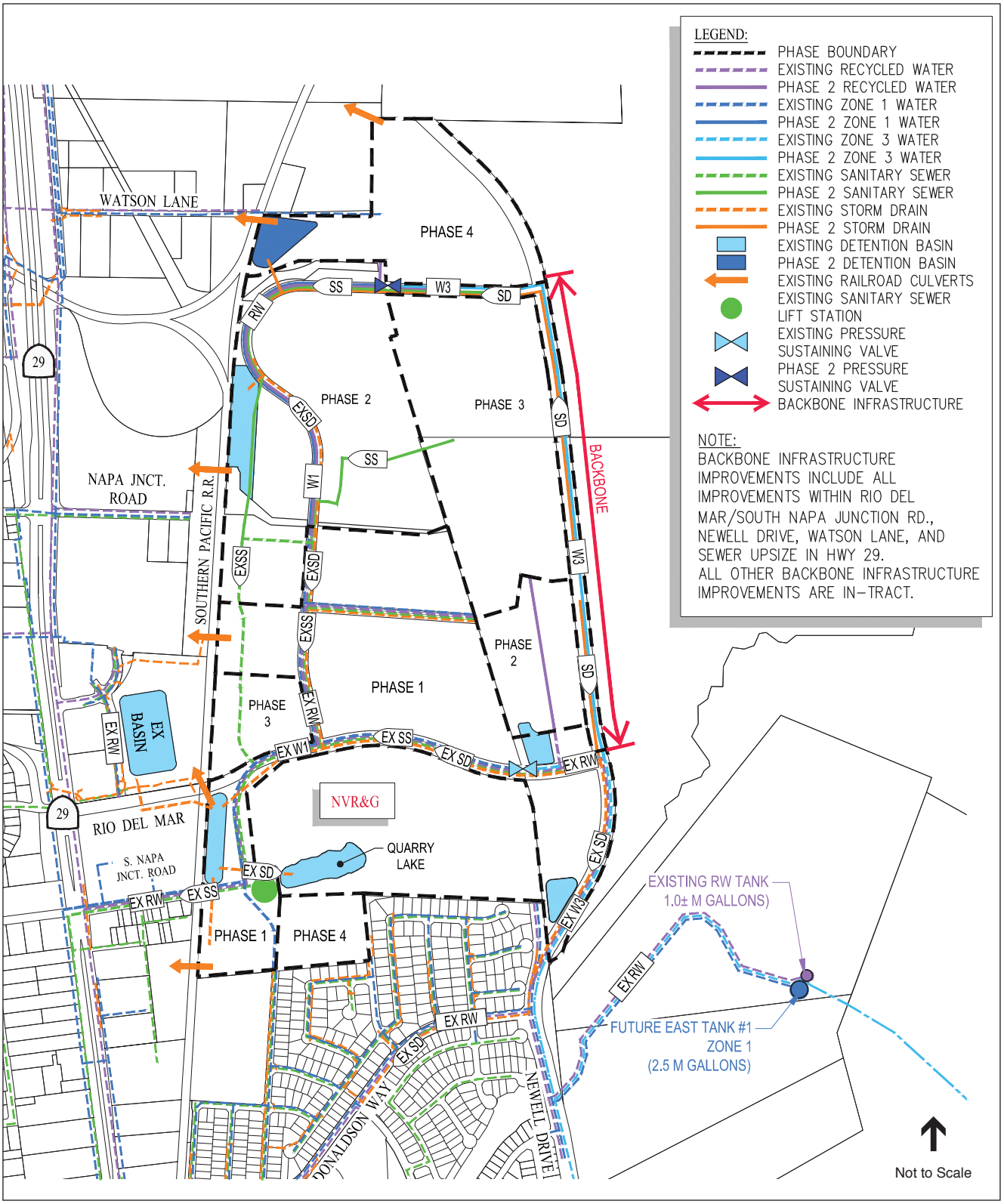
Construction activities would be limited to 7 a.m. and 7 p.m., pursuant to Section 8.12.080(B)(2)(b) of the City's Municipal Code; however, it is assumed that construction would not occur past sunset.



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-27

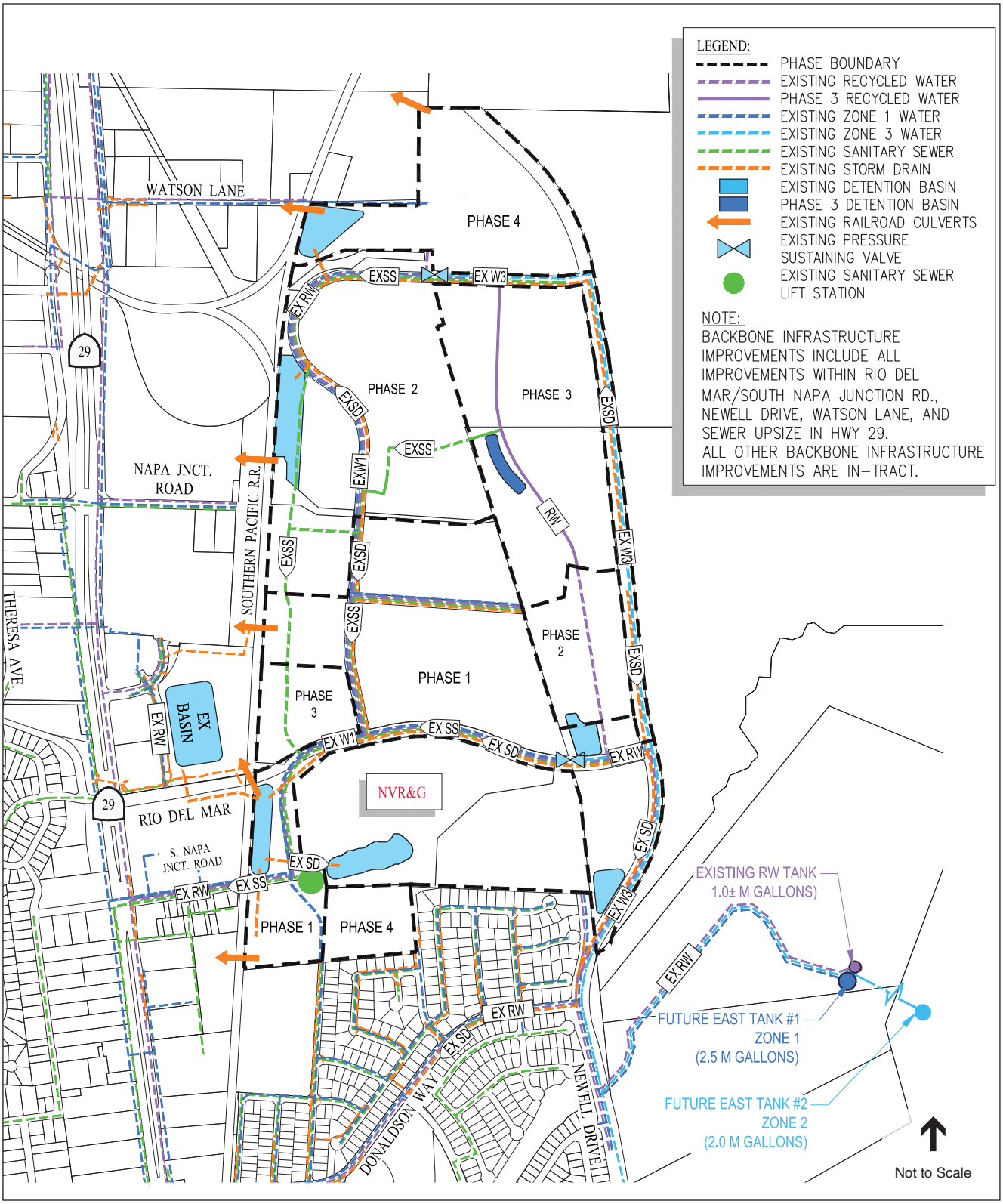
Phase 1 Infrastructure Improvements



SOURCE: Watson Ranch Specific Plan, 2016

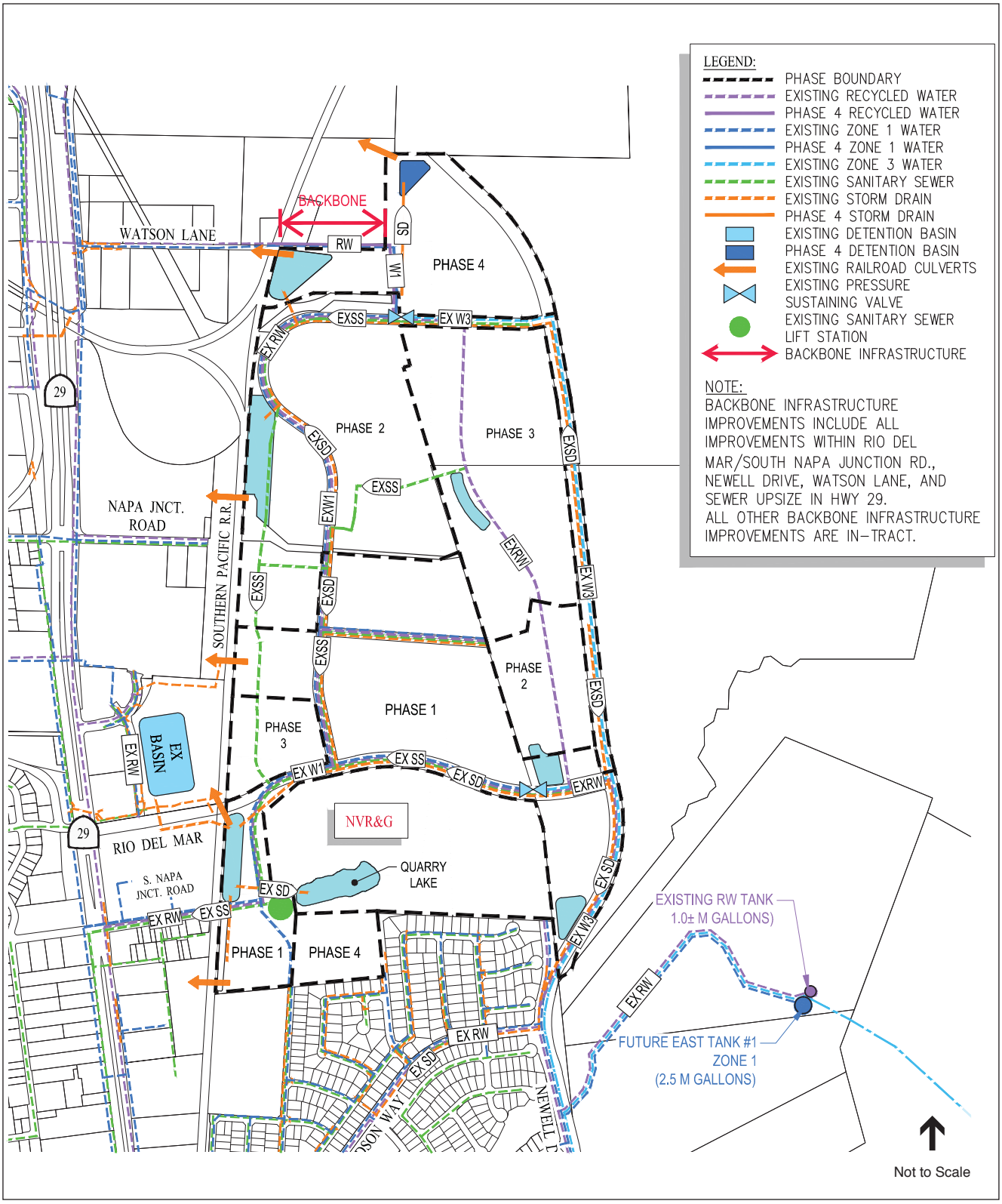
Figure 3-28

Phase 2 Infrastructure Improvements



SOURCE: Watson Ranch Specific Plan, 2016

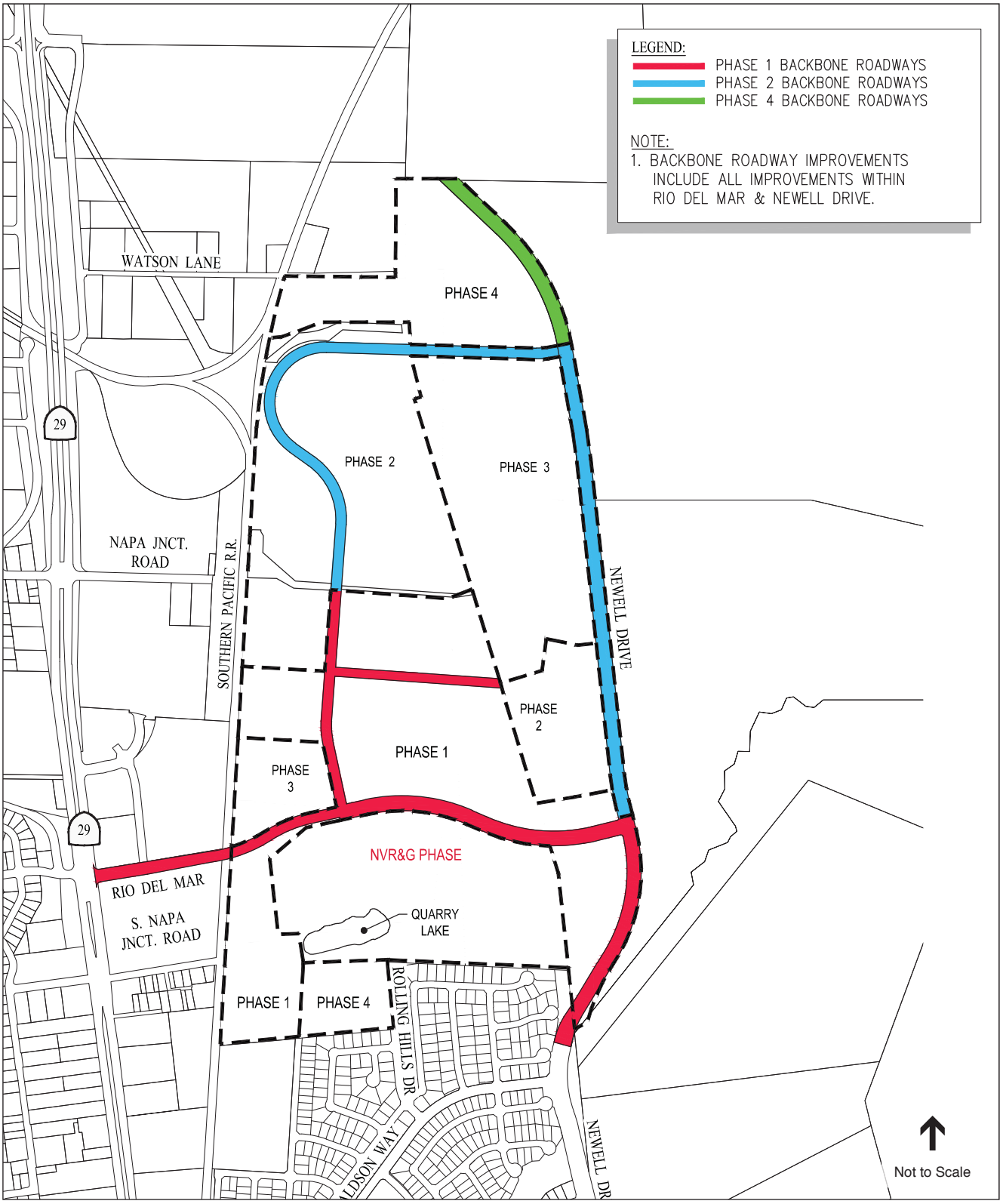
Figure 3-29
Phase 3 Infrastructure Improvements



SOURCE: Watson Ranch Specific Plan, 2016

Figure 3-30

Phase 4 Infrastructure Improvements



SOURCE: Watson Ranch Specific Plan, 2016

Watson Ranch Specific Plan . 130779

Figure 3-31

Onsite and Offsite Backbone Roadway Phasing

3.6 Approvals

Table 3-5 identifies the discretionary and other implementing approvals anticipated to be required for the Project.

TABLE 3-5
ANTICIPATED AGENCY PERMITS, APPROVALS, AND ACTIONS

Agency	Permits/Approvals
City of American Canyon	Certification of the EIR General Plan Circulation Element Amendment for relocating a major collector and Major intersection designation Adoption of the Specific Plan (by Ordinance) Approval of Development Agreements Design Review approvals Approval of Tentative and Final Subdivision Maps Building, Design, and Conditional Use Permits Improvement Plan Approval
Napa County Unified School District	School Mitigation Agreement
Napa County	Airport Land Use Commission Review
California Department of Fish and Wildlife	Streambed Alteration Agreement Section 2081 Incidental Take Permit
Regional Water Quality Control Board	Section 401 Water Quality Certification
U.S. Army Corps of Engineers	Section 404 Permit
U.S. Fish and Wildlife Service	Section 7 Biological Opinion
California Public Utilities Commission	Approval of railroad crossing(s). *Note: The City of American Canyon secured approval for a two-lane at-grade crossing of the railroad tracks at South Napa Junction Road. The original approval has been extended several times. A petition to extend that approval pending completion of the Watson Ranch Specific Plan Environmental Impact Report was filed with the Public Utilities Commission on April 1, 2015. The new grade-separated railroad crossing at Rio Del Mar will require a separate application to be filed and will be subject to approval by the Public Utilities Commission and the Union Pacific Railroad.*
California Department of Transportation (Caltrans)	Encroachment Permits for offsite transportation improvements

References – Project Description

City of American Canyon. 1994. City of American Canyon General Plan. Adopted November 3, 1994, as amended through March 2015.

City of American Canyon. 2016. *City* American Canyon Municipal Code. Last updated in April, 2016.

City of American Canyon. 2016. Watson Ranch Specific Plan.

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4.12 Transportation and Traffic

4.12.1 Introduction

This section describes the potential for the proposed Project to affect transportation and circulation. Transportation-related topics that are addressed include traffic on local streets, site access and circulation, transit conditions, pedestrian and bicycle conditions, and vehicle parking and loading conditions. More specifically, the potential for proposed Project to increase local and regional traffic volumes, exceed a level of service (LOS) standard, increase hazards, interfere with emergency access, result in an inadequate parking supply, or conflict with applicable alternative transportation programs is evaluated. This section is based on information and analysis contained in the Project's Transportation Impact Study prepared by Fehr and Peers, this study and supporting information are included as Appendix J of this document.[1]

As stated in Chapter 1, *Introduction*, on February 9, 2015 the City sent a Notice of Preparation (NOP) to responsible, trustee, and federal agencies, as well as to organizations, and individuals potentially interested in the Project to identify the relevant environmental issues that should be addressed in the EIR. Comments received that are relevant to transportation and circulation include consideration of the safety and operations of at-grade railroad crossings, compatibility with the Napa County Airport's Airport Influence Area, and the commitment to reduce vehicle trips and pay Traffic Impact Fees as part of the mitigation of Project impacts. These issues are addressed in this section.

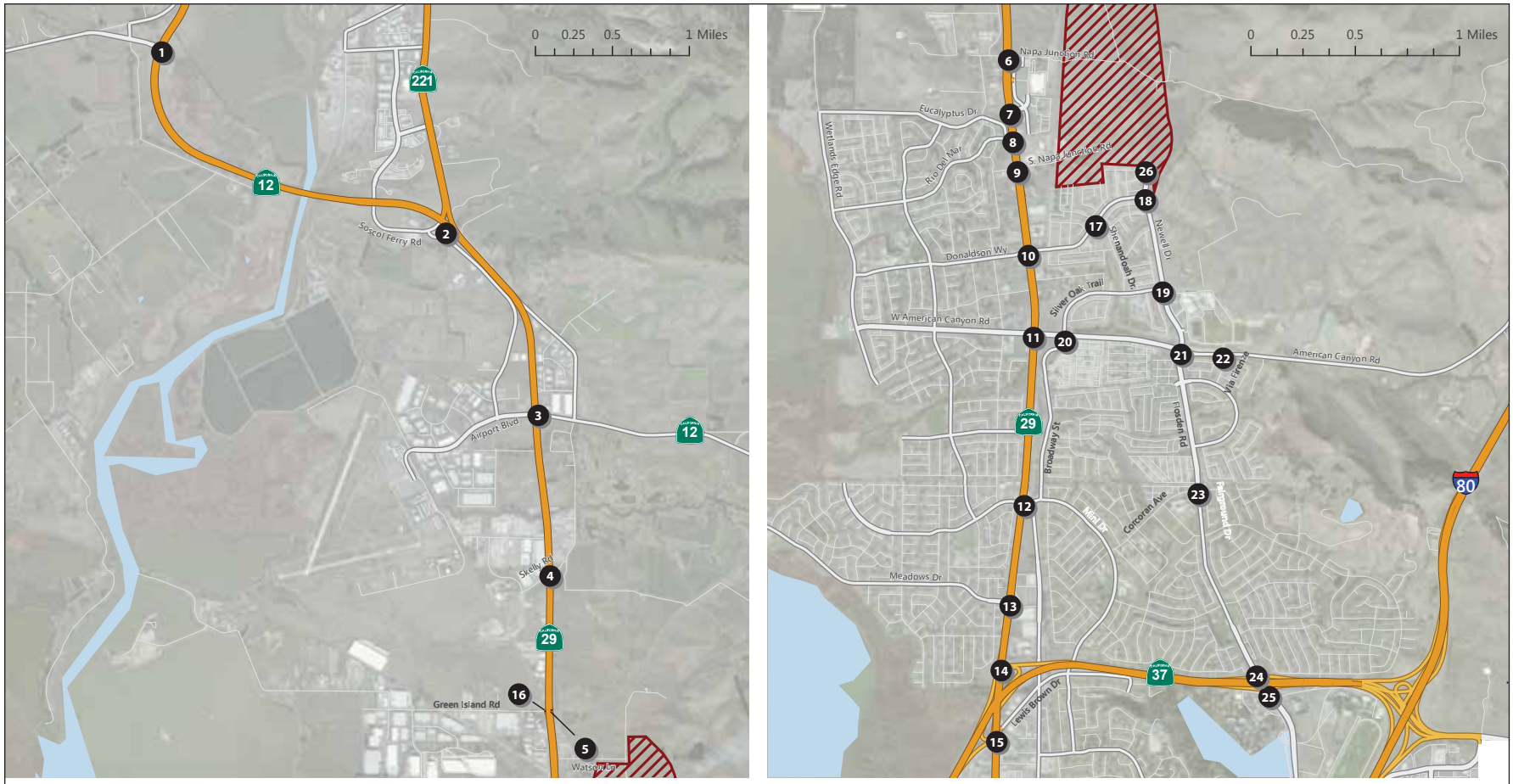
4.12.2 Environmental Setting

The Project site is located east of the railroad tracks between Watson Lane and South Napa Junction Road; there are no existing uses at the Project site.

Regional and Local Roadways

Regional vehicular access to the Project area is provided by State Route 12 (SR 12) and State Route 29 (SR 29). Interstate 80 (I-80) and State Route 37 (SR 37) facilitate regional access to SR 12 and SR 29; these and other major roadways in the study area are described as follows. The locations of these roadways are shown on **Figure 4.12-1**.

[1] Fehr & Peers, *Watson Ranch Specific Plan Transportation Impact Study – Final,* 2016. Supporting information includes traffic counts, travel time runs, Synchro and VISSIM intersection analysis summaries, peak hour signal warrant analysis worksheets, and collision data.



SOURCE: Fehr & Peers, 2016

Watson Ranch Specific Plan . 130779

Figure 4.12-1

Study Area and Intersections

Regional Facilities

Interstate 80 (I-80) is an east-west divided freeway with four westbound lanes and four eastbound lanes. It is part of the Interstate Highway System, providing regional access to and from Sacramento, Solano, Contra Costa, Alameda, and San Francisco Counties. The posted speed limit along I-80 is 65 miles per hour (mph).

State Route 12 (SR 12) is an east-west, two- to four-lane state highway that connects to I-80 in Fairfield and to U.S. 101 in Santa Rosa. SR 12 passes to the northeast of the site, merging with State Route 29 between Airport Boulevard and State Route 121. A three-mile stretch of SR 12 was recently widened east of SR 29 from two to four lanes. SR 12 provides access to the Project site from Solano and Sacramento Counties to the east and Napa and Sonoma Counties to the west. The posted speed limit along SR 12 varies from 55 mph to 60 mph in the vicinity of the Project.

State Route 29 (SR 29) is a north-south, four-lane divided state highway that connects Interstate 80 to the cities of Vallejo, American Canyon, and Napa to the north. SR 29 passes west of the site and would provide primary regional access for the Project. The posted speed limit along SR 29 varies from 50 mph to 55 mph in the vicinity of the Project.

State Route 37 (SR 37) is an east-west, four-lane freeway in the vicinity of the Project that connects to Interstate 80 in Vallejo and to U.S. 101 in Novato. SR 37 passes to the south of the City of American Canyon. The posted speed limit on SR 37 is 65 mph.

State Route 121 (SR 121) is a north-south, two- to four-lane state highway that connects to State Route 128 northeast of the City of Napa and to State Route 37 near Novato. SR 121 passes to the north of the site, merging with SR 29 and SR 12 briefly. The posted speed limit on SR 121 is 55 mph.

State Route 221 (SR 221) is a north-south, four-lane divided state highway that connects SR 29 to SR 121 southeast of downtown Napa. SR 221 passes north of the site. The posted speed limit on SR 221 in the vicinity of SR 29 is 55 mph.

Local Facilities

Local facilities are briefly described in **Table 4.12-1**.

Study Intersections

Project impacts on study area roadway facilities were determined by measuring the effect Project traffic would have on intersection operations during morning and evening peak commute periods when traffic volumes on surrounding roadways are highest. Study intersections and their jurisdictions are summarized in **Table 4.12-2**, and were selected in consultation with city staff, based on the amount of traffic projected to be added by the proposed Project. The location of these intersections are shown on Figure 4.12-1 and represent locations most likely to experience traffic impacts associated with the Project. One of the study intersections, #26 Newell Drive Extension/Rio Del Mar would be constructed as part of the proposed Project and are, therefore, not evaluated in the existing conditions scenario.

TABLE 4.12-1
LOCAL ROADWAYS

Roadway Name	Lanes	Speed Limit	Direction	Sidewalks	Bicycle Facility
American Canyon Road	2 to 4	40 to 45	E-W	South Side (Typ.)	No
Silver Oak Trail	2	25	-	Yes	No
Newell Drive	2 to 4	35	N-S	West Side Only (Typ.)	No
Donaldson Way	2	25	E-W	Typical	No
South Napa Junction Road	2	25	E-W	No	No
Poco Way	2	25	E-W	South Side Only	No
Rio Del Mar	2	25	E-W	Yes	No
Eucalyptus Drive	2 to 4	25	-	Yes	No
Napa Junction Road	2	25	E-W	South Side Only	No
Green Island Road	2	40	E-W	No	No
Paoli Loop Road	2	Not Posted	-	No	No
Kelly Road	2	50	-	No (Typ.)	No
Airport Boulevard	4	45	E-W	No	No
Meadows Drive	4	35	E-W	Yes	No
Mini Drive	2 to 4	25 to 30	E-W	Yes	No
Soscol Ferry Road	2	30	-	No	No
Lewis Brown Drive	5	35	E-W	Yes	Yes
Shenandoah Drive	2	25	N-S	Yes	Yes
Flosden Road / Fairgrounds Drive	4	45	N-S	Yes	No
Via Firenze	2	30	N-S	Yes	No

SOURCE: Fehr & Peers, 2016, as provided in the Transportation Impact Study, Appendix J.1.

TABLE 4.12-2
STUDY INTERSECTIONS

#	Intersection Name	Jurisdiction
1	SR 29 / SR 12 / SR 121	Caltrans
2	SR 29 / SR 12 / SR 221 / Soscol Ferry Road	Caltrans
3	SR 29 / SR 12 / Airport Boulevard	Caltrans
4	SR 29 / South Kelly Road	Caltrans
5	SR 29 / Green Island Road / Paoli Loop Road	Caltrans
6	SR 29 / Napa Junction Road	Caltrans
7	SR 29 / Eucalyptus Drive	Caltrans
8	SR 29 / Rio Del Mar	Caltrans
9	SR 29 / South Napa Junction Road / Poco Way	Caltrans
10	SR 29 / Donaldson Way	Caltrans
11	SR 29 / American Canyon Road	Caltrans
12	SR 29 / Mini Drive	Caltrans
13	SR 29 / Meadows Drive	Caltrans
14	SR 29 / SR 37 Westbound Ramps	Caltrans
15	SR 29 / SR 37 Eastbound Ramps / Lewis Brown Drive	Caltrans

TABLE 4.12-2 (Continued)
STUDY INTERSECTIONS

#	Intersection Name	Jurisdiction
16	Green Island Road / Paoli Loop Road	City of American Canyon
17	Donaldson Way / Shenandoah Drive	City of American Canyon
18	Donaldson Way / Newell Drive	City of American Canyon
19	Newell Drive / Silver Oak Trail	City of American Canyon
20	American Canyon Road / Silver Oak Trail	City of American Canyon
21	American Canyon Road / Newell Drive / Flosden Road	City of American Canyon
22	American Canyon Road / Via Firenze	City of American Canyon
23	Flosden Road / Fairgrounds Drive / Corcoran Avenue	City of Vallejo
24	Fairgrounds Drive / SR 37 Westbound Ramps	Caltrans
25	Fairgrounds Drive / SR 37 Eastbound Ramps	Caltrans
26	**Newell Drive Extension / Rio Del Mar**	**City of American Canyon**

NOTE: Bolded intersections are future intersections only

SOURCE: Fehr & Peers, 2016.

Level of Service

Operational traffic analyses focus on intersections rather than roadway segments, due to capacity constraints typically occurring at intersections. The operational performance of a roadway network is commonly described as level of service or LOS. LOS is a qualitative description of operating conditions, ranging from LOS A (free flow traffic conditions with little or no delay) to LOS F (oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). The LOS analysis methods outlined in the Highway Capacity Manual (HCM; Transportation Research Board, 2000) were used in this study. HCM methods for calculating LOS for signalized intersections and unsignalized intersections are described below.

Traffic operations at signalized intersections were evaluated using the LOS method described in Chapter 16 of the 2000 HCM. The Synchro software package was used to model traffic conditions throughout most of the Project study area; however, the VISSIM software package was used to model traffic conditions along SR 29 between Napa Junction Road (#6) and American Canyon Road (#11). Due to the existing congestion on this corridor, VISSIM was selected for this analysis because it models the effects of closely spaced intersections and queue spillback from one intersection to another.

Synchro is a macrosimulation tool that uses deterministic equations to evaluate operations at an intersection. VISSIM is a microsimulation software that analyzes traffic operations by simulating movement of individual cars, trucks, transit vehicles, pedestrians, and bicycles. Each model run generates different driver behaviors and system results. The model is run multiple times to account for the randomness of simulations and to ensure that results are reasonable. VISSIM allows the user to control vehicle inputs, vehicle routes, vehicle fleet composition, desired speeds throughout the network, and conflict areas to determine yielding behavior, driver

behavior, parking areas and behavior, and pedestrian and bicycle volumes and behavior. VISSIM also reflects that conditions at one location can affect conditions at another (i.e., queue spillback from one signalized intersection to another, or "starvation" at a signalized intersection because of poor operations at an upstream location).

A signalized intersection's LOS is based on weighted average control delay measured in seconds per vehicle. Control delay includes initial deceleration delay, queue move-up time (if multiple cycles are needed to clear the intersection), stopped delay, and final acceleration. **Table 4.12-3** summarizes the relationship between control delay and LOS for signalized intersections.

TABLE 4.12-3
SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Average Control Delay (seconds)
A	Operations with very low delay occurring with favorable traffic signal progression and/or short cycle lengths.	< 10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10 to 20
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20 to 35
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35 to 55
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 to 80
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80

SOURCE: *Highway Capacity Manual*, Transportation Research Board, 2000.

In Chapter 17 of the 2000 HCM, the LOS for unsignalized intersections (side-street or all-way stop controlled intersections) is also defined by the average control delay per vehicle (measured in seconds). The control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in the queue. For side-street stop-controlled intersections, delay is calculated for each stop-controlled movement and for uncontrolled left turns, if any, from the main street. The delay and intersection LOS as a whole and for the worst movement are reported for side-street stop intersections. The intersection average delay is reported for all-way stop intersections. **Table 4.12-4** summarizes the relationship between delay and LOS for unsignalized intersections. The delay ranges for unsignalized intersections are lower than for signalized intersections as drivers expect less delay at unsignalized intersections.

TABLE 4.12-4
UNSIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delay.	≤ 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.	> 50.0

SOURCE: *Highway Capacity Manual*, Transportation Research Board, 2000.

Existing Traffic Conditions

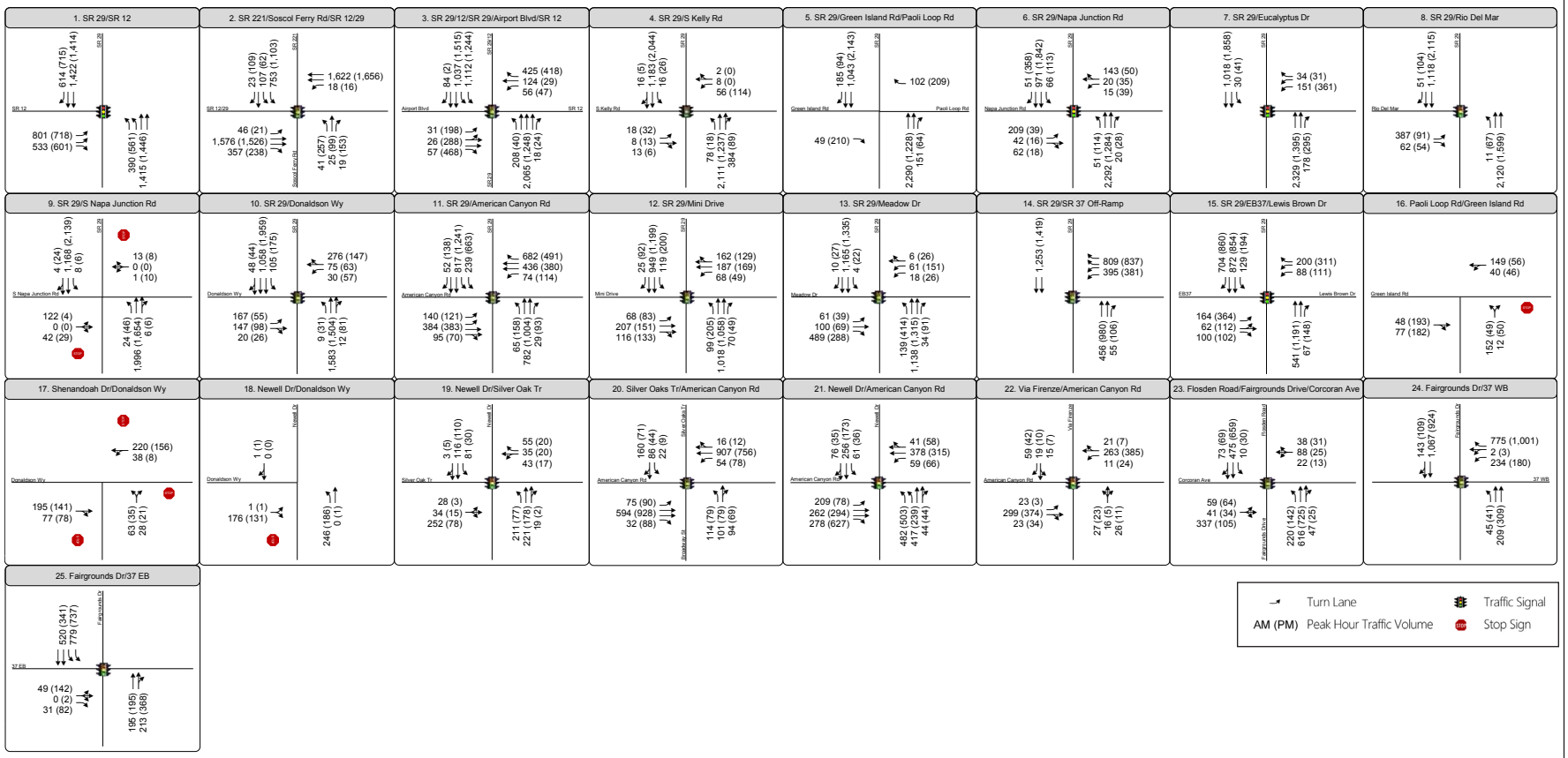
Level of Service

Weekday morning (7:00 to 9:00 AM[2]) and evening (4:00 to 6:00 PM[3]) peak period intersection turning movement counts were conducted at study locations on Wednesday, May 28, 2014 and Tuesday, June 3, 2014 with area schools in-session. The single hour with highest traffic volumes during each count period was identified as the peak hour. Existing lane configurations and signal controls were obtained through field observations. The peak hour volumes are presented on **Figure 4.12-2** along with existing lane configurations and traffic control devices (stops signs or traffic signals).

Existing intersection lane configurations, signal timings, and peak hour turning movement volumes were used to calculate the LOS for key intersections during each peak hour.

American Canyon Traffic Impact Study Guidelines do not require an adjustment of new turning movement counts to account for daily or seasonal variation. Other jurisdictions, such as Napa County, do require an adjustment of turning movement counts to account for these variations. Based on time of year and day of week that data were collected, these adjustments would increase each measured count by approximately two to three percent using Napa County guidelines. These adjustments were not made for this study, however, because they would have a negligible effect on average vehicle delay at each study intersection, which would not change LOS results.

2 The capitalized use of AM is used to indicate a peak hour.
3 The capitalized use of PM is used to indicate a peak hour.



SOURCE: Fehr & Peers, 2016

Figure 4.12-2

Lane Configurations, Traffic Controls, and Peak Hour Traffic Volumes – Existing Conditions

The volumes shown for intersections on SR 29 between Napa Junction Road (#6) and American Canyon Road (#11) do not match traffic count worksheets because the VISSIM analysis software requires that volumes balance exactly between adjacent intersections. That is, the number of vehicles leaving one intersection must equal the number of vehicles entering the next intersection. Adjustments made to raw counts are within typical day-to-day variation of vehicle volumes, and volumes were typically adjusted to increase the lower count to provide a conservative analysis.

Field observations conducted during peak periods were used to validate the results of the AM and PM peak hour Synchro and VISSIM analyses. Travel time runs on SR 29 were also conducted to calibrate the VISSIM models.

During the AM peak hour, there is some congestion through the corridor, particularly in the northbound direction. However, travel time runs show that vehicles did not have to wait through more than one cycle at any intersection, corroborating LOS C results through the corridor. During the PM peak hour, southbound vehicles experience delays and vehicle queues at Napa Junction Road. Signals at Rio Del Mar and Eucalyptus Drive intersections occasionally create localized congestion resulting from vehicle queues through the City, but metering of traffic at Napa Junction Road allows these intersections to generally operate acceptably.

Each VISSIM model was validated to Caltrans standards for microsimulation model variation. Each intersection served 99 to 101 percent of its counted demand in the AM peak hour and 97 to 99 percent of vehicles counted at intersections in the PM peak hour. Both were also calibrated to within 15 percent of travel times collected in the field, per the calibration targets set forth in Guidelines for Applying Traffic Microsimulation Modeling Software (California Department of Transportation, 2002). The model was also calibrated to try to match existing vehicle queues, particularly in the southbound direction on SR 29 where significant queuing was observed. The SR 29 southbound queue from Napa Junction Road extended north of SR 12/Airport Boulevard during the PM peak period.

The VISSIM models show that peak hour speeds through the corridor are much less than uncongested off-peak speeds in both peak hours. In the AM peak hour, average travel speed is 30 mph in the northbound direction and 31 mph in the southbound direction. In the PM peak hour, average travel speed is 30 mph in the northbound direction and 22 mph in the southbound direction. The posted speed limit on SR 29 varies from 50 to 55 mph in the study area.

The results of the LOS analysis for Existing Conditions are presented in **Table 4.12-5**.

TABLE 4.12-5
EXISTING INTERSECTION LEVEL OF SERVICE

#	Intersection	Control	Peak Hour[1]	Delay[2]	LOS[3]
1	SR 29 / SR 12 / SR 121	Signal	AM PM	**39.4** **37.9**	**D** **D**
2	SR 29 / SR 12 / SR 221 / Soscol Ferry Road	Signal	AM PM	**58.9** **>80**	**E** **F**
3	SR 29 / SR 12 / Airport Boulevard	Signal	AM PM	**>80** **>80**	**F** **F**
4	SR 29 / South Kelly Road	Signal	AM PM	31.0 **n/a**[4]	C **F**[4]
5	SR 29 / Green Island Road / Paoli Loop Road	Uncontrolled	AM PM	- -	- -
6	SR 29 / Napa Junction Road	Signal	AM PM	28.4 **>80**	C **F**
7	SR 29 / Eucalyptus Drive	Signal	AM PM	6.9 19.1	A B
8	SR 29 / Rio Del Mar	Signal	AM PM	18.6 17.8	B B
9	SR 29 / South Napa Junction Road / Poco Way	SSSC	AM PM	8.6 (22.8) 2.9 (13.2)	A (C) A (B)
10	SR 29 / Donaldson Way	Signal	AM PM	31.1 40.0	C D
11	SR 29 / American Canyon Road	Signal	AM PM	33.4 51.5	C D
12	SR 29 / Mini Drive	Signal	AM PM	24.3 27.0	C C
13	SR 29 / Meadows Drive	Signal	AM PM	23.8 **38.1**	C **D**
14	SR 29 / SR 37 Westbound On-Ramp	Signal	AM PM	12.0 16.4	B B
15	SR 29 / SR 37 Eastbound Ramps / Lewis Brown Drive	Signal	AM PM	16.7 31.9	B C
16	Paoli Loop Road / Green Island Road	SSSC	AM PM	5.1 (12.9) 3.1 (13.6)	A (B) A (B)
17	Shenandoah Drive / Donaldson Way	AWSC	AM PM	10.8 8.4	B A
18	Newell Drive / Donaldson Way	SSSC	AM PM	8.3 (9.2) 8.0 (8.8)	A (A) A (A)
19	Newell Drive / Silver Oak Trail	Signal	AM PM	20.2 11.8	C B
20	Broadway Street / Silver Oak Trail / American Canyon Road	Signal	AM PM	38.4 38.3	D D
21	Newell Drive / American Canyon Road	Signal	AM PM	41.6 46.7	D D
22	Via Firenze / American Canyon Road	Signal	AM PM	15.0 12.1	B B
23	Fairgrounds Drive / Flosden Road / Corcoran Avenue	Signal	AM PM	24.0 13.9	C B
24	Fairgrounds Drive / SR 37 Westbound Ramps	Signal	AM PM	**36.5** **38.5**	**D** **D**
25	Fairgrounds Drive / SR 37 Eastbound Ramps	Signal	AM PM	13.4 14.9	B B

NOTES:
1 AM = morning peak hour, PM = evening peak hour
2 Entire intersection weighted average control delay expressed in second per vehicle for signalized intersections and all-way stop-controlled intersections. Total control delay for the worst movement is presented for side-street stop controlled intersections.
3 LOS = Level of Service. LOS calculations conducted using the Synchro analysis software package, which applies the method described in the 2000 Highway Capacity Manual.
4 Synchro calculations indicate LOS B conditions because the model does not adjust the capacity of the intersection to account for the downstream queue. Given that the capacity is constrained by the queue from the Napa Junction Road intersection, the southbound approach is in queue back to the Airport Boulevard / SR 12 intersection. As a result of this queue, LOS F would more accurately characterize operating conditions at this intersection during the PM peak hour.

Bold text indicates intersection operates at a deficient Level of Service.
AWSC = All-Way Stop Control; SSSC = Side-Street Stop Control

SOURCE: Fehr & Peers, 2016.

The results of the LOS calculations indicate that the following intersections do not currently operate at acceptable LOS according to their designated LOS standard:

- (#1) SR 29 / SR 12 / SR 121 (AM and PM peak hours)
- (#2) SR 29 / SR 12 / SR 221 / Soscol Ferry Road (AM and PM peak hours)
- (#3) SR 29 / SR 12 / Airport Boulevard (AM and PM peak hours)
- (#4) SR 29 / South Kelly Road (PM peak hour)
- (#6) SR 29 / Napa Junction Road (PM peak hour)
- (#13) SR 29 / Meadows Drive (PM peak hour)
- (#24) Fairgrounds Drive / SR 37 Westbound Ramps (AM and PM peak hours)

Signal Warrants

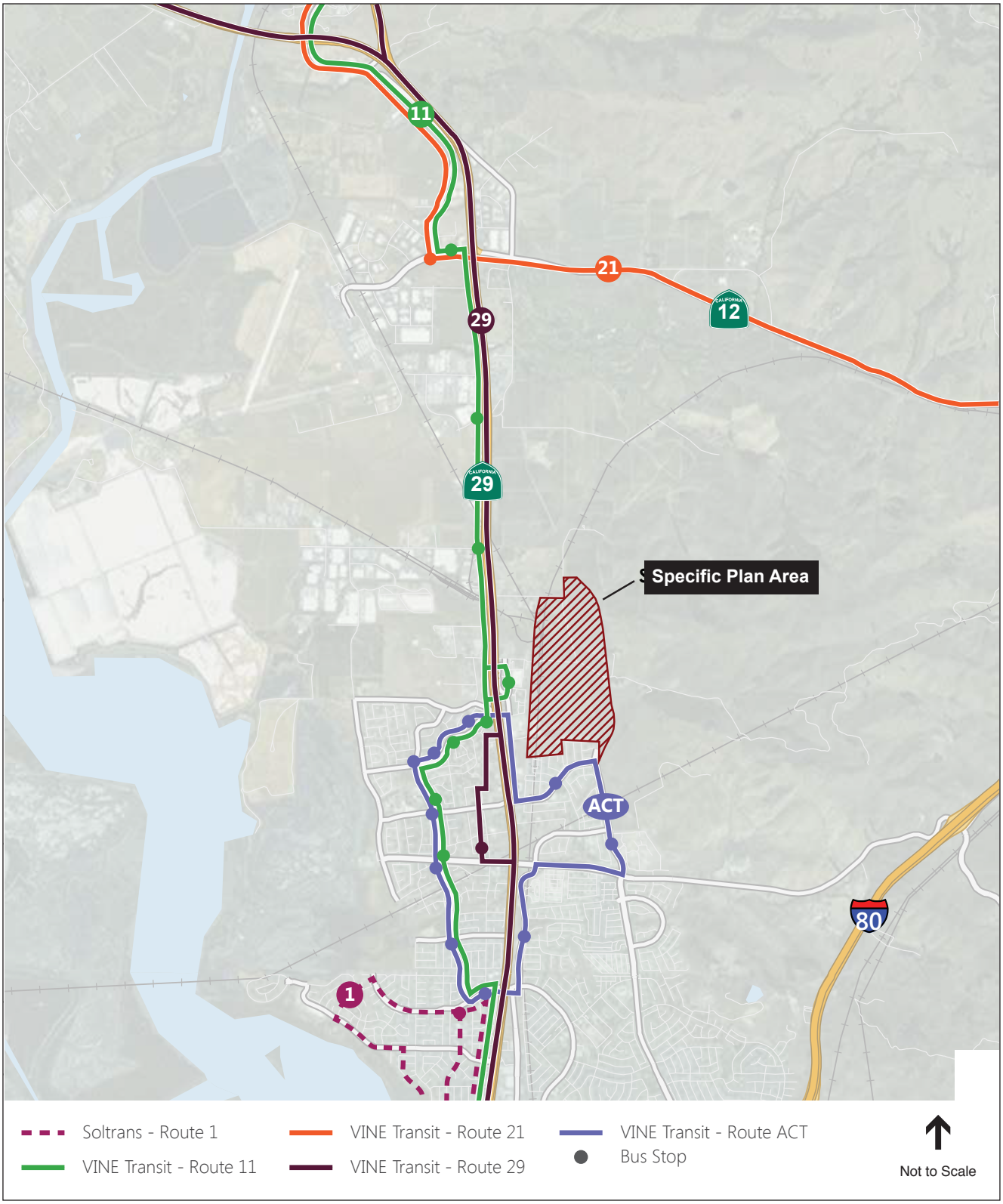
The MUTCD contains a number of guidelines, called warrants, to determine whether the installation of a traffic signal at a particular location is appropriate. The peak-hour signal warrant, one of eight warrants, was evaluated for unsignalized intersections under existing conditions. The four existing unsignalized intersections for this Project are:

- SR 29 / South Napa Junction Road / Poco Way (#9)
- Paoli Loop Road / Green Island Road (#16)
- Shenandoah Drive / Donaldson Way (#17)
- Newell Drive / Donaldson Way (#18)

As shown in Table 4.12-5, all four unsignalized intersections currently operate at an acceptable level of service. However, results of the signal warrant analysis indicate that a traffic signal is warranted at the intersection of SR 29 / South Napa Junction Road / Poco Way (#9) during the AM peak hour. Currently, there are 122 eastbound left turns and 45 eastbound right turns from Poco Way at the intersection of South Napa Junction Road / Poco Way and SR 29 during the AM peak hour. The closely spaced signals along SR 29 provide vehicles from Poco Way gaps in the flow of traffic to make their desired movements onto SR 29, as vehicles already on SR 29 travel in platoons through the City based on green times from adjacent signals.

Public Transit Service

Existing public transit routes in the vicinity of the Project site are shown in **Figure 4.12-3** and summarized in **Table 4.12-6** and described below. There is one park-and-ride facility in the City of American Canyon, located at 300 Crawford Way.



SOURCE: Fehr & Peers, 2016

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Figure 4.12-3

Existing Transit Routes

TABLE 4.12-6
EXISTING PUBLIC TRANSIT SERVICE ROUTES

Service Provider	Route	Weekday AM Peak Frequency	Weekday PM Peak Frequency	Nearest Stop Location(s)
VINE	11	60 minutes	60 minutes	Green Island Road / SR 29; Eucalyptus Drive / SR 29
	21	60 minutes	60 minutes	Airport Boulevard / Devlin Road
	29	60 minutes	60 minutes	American Canyon Post Office
	ACT	60 minutes	30 minutes	SR 29 / Rio Del Mar; Donaldson Way / Summerwood Fire Department
SolTrans	1	30 minutes	30 minutes	Mini Drive / Elliot Drive

SOURCE: Fehr & Peers, 2016.

Napa Valley Transportation Authority

The Napa Valley Transportation Authority (NVTA) is a joint powers agency that operates the VINE local bus, community shuttle, and paratransit services for Napa County. There are three VINE regional routes, which operate in the vicinity of the Project site and are summarized in Table C.4-6. Additionally, the NVTA operates an American Canyon Transit (ACT) bus route that operates solely within American Canyon.

Route 11 operates between downtown Napa and downtown Vallejo, with the nearest stop at the intersection of Rio Del Mar and SR 29 approximately one-quarter of a mile from the Project site. The route operates from 4:00 a.m.[4] to 9:20 p.m.[5] on weekdays, from 6:30 a.m. to 7:50 p.m. on Saturdays, and from 8:00 a.m. to 7:20 p.m. on Sundays. Route 21 operates between downtown Napa and downtown Fairfield, with the nearest stop at the intersection of Airport Boulevard and Devlin Road approximately 3.8 miles from the Project site. The route operates from 6:30 a.m. to 8:00 p.m. on weekdays only. Route 29 operates between Calistoga and El Cerrito del Norte BART along SR 29, with the nearest stop at the American Canyon post office approximately 1 mile from the Project site. The route operates from 4:40 a.m. to 7:00 p.m. on weekdays only.

ACT is a deviated fixed-route bus service aimed at getting local residents to shopping and healthcare facilities within American Canyon. ACT connects to VINE Routes 11 and 29 and operates from 6:00 a.m. to 8:30 a.m. and 3:35 p.m. to 4:20 p.m. on weekdays only. The route generally runs along Mini Drive, Broadway, American Canyon Road, Newell Drive, Donaldson Way, SR 29, Rio Del Mar, and Elliott Drive in a loop. The route runs in both clockwise and counterclockwise directions.

4 The lower case use of a.m. is used to indicate operation hours.
5 The lower case use of p.m. is used to indicate operation hours.

Solano County Transit

Solano County Transit (SolTrans) is a joint powers authority that provides local and express bus and paratransit services for Vallejo, Benicia, and Fairfield. There is one local bus route that stops in the vicinity of the Project site and is summarized in Table 4. Route 1 operates between residential areas in northwest Vallejo and the Vallejo Transit Center in downtown Vallejo, with the nearest stop at the intersection of Mini Drive and Elliot Drive approximately two miles from the Project site. The route operates from 5:30 a.m. to 7:30 p.m. on weekdays, from 6:45 a.m. to 7:10 p.m. on Saturdays, and from 8:30 a.m. to 7:30 p.m. on Sundays.

Bicycle Facilities

Bikeway planning and design in California typically relies on guidelines and design standards established by Caltrans in the 6th Edition of the Highway Design Manual (Chapter 1000: Bikeway Planning and Design), as last revised on December 30, 2015, and other design documents. Bicycle facilities comprise paths (Class I), lanes (Class II), routes (Class III), and boulevards (Class IIIA) as described below.

- Class I Bikeway (Bicycle Path) provides a completely separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized. Class I paths are typically eight to ten feet wide excluding shoulders and are generally paved.
- Class II Bikeway (Bicycle Lane) provides a restricted right-of-way and is designated for bicycle use with a striped lane on a street or highway. Bicycle lanes are generally four to six feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted.
- Class III Bikeway (Bicycle Route) provides for a right-of-way designated by signs or pavement markings (sharrows) for shared use with pedestrians or motor vehicles. Sharrows are a type of pavement marking (bike and arrow stencil) placed to guide bicyclists to the best place to ride on the road, avoid car doors, and remind drivers to share the road with cyclists.
- Class IIIA Bikeway (Bicycle Boulevard) is a modified bicycle route providing convenient and efficient through route for cycles of all skill levels. A bike boulevard includes signage, pavement markings, and in some cases, traffic calming (e.g., mid-block closures to vehicles), and bike lanes.
- Class IV Bikeway (Cycletrack/Protected Bicycle Lanes) is a relatively new designation that provides a right-of-way designated exclusively for bicycle travel within a roadway. These facilities are protected from other vehicle traffic with devices, including, but not limited to, grade separation, flexible posts, inflexible physical barriers, or parked cars.

Existing Class I bicycle facilities within one-half mile of the Project site include Shenandoah Drive from Silver Oak Park to Granite Springs Way, east through Vintage Ranch neighborhood, and north along Newell Drive to Donaldson Way, and SR 29 from Eucalyptus Drive to Napa Junction Road.

No significant bicycle and vehicle conflicts were noted during field observations in May and June, 2014; the relationship between the number of facilities and bicyclists is difficult to determine, though it does help to minimize conflicts.

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signals and off-street pedestrian paths. Most streets on the east side of SR 29 in new residential neighborhoods provide sidewalks on both sides of the street, while SR 29 and many of the non-residential roads do not provide sidewalks on either side of the street. Some of the study intersections provide crosswalks and pedestrian signals, but usually not for all four approaches. No significant pedestrian and vehicle conflicts were noted during field observations.

During field observations, few pedestrians were observed near the Project site. Pedestrians were most noticeable in the AM peak hour near American Canyon High School. Currently, there are no direct connections from new residential areas east of SR 29 to the Walmart retail area between Eucalyptus Drive and Napa Junction Road. Pedestrians would be forced to walk to Donaldson Way and along SR 29 to access these retail areas. SR 29 has no sidewalk on the east side for a significant portion of this distance.

Parking

Parking in the vicinity of the Project site is provided off-street, and on-street parking is generally prohibited. The existing uses along SR 29 provide sufficient off-street parking.

Rail

The California Northern Railroad is located immediately west of the Project site and is used exclusively for freight service. Freight service currently consists of 20- to 30-car trains traveling approximately 10 mph operating twice a day Monday through Friday between 8:00 am and 3:00 pm. There are typically no trains operating on weekends in American Canyon.

Near the Project site, at grade railroad crossings are currently present at American Canyon Drive, Donaldson Way, South Napa Junction Road, and Watson Lane.[6] Trains from this line cross under SR 29 and west into Sonoma County or north towards Napa; to the east the line connects to the Union Pacific line to Sacramento for distribution across the country, and Benicia and Oakland, where they arrive at ports for distribution across the Pacific Ocean. Most at-grade crossings are on low-volume roads that serve only local traffic and that affect vehicle operations only temporarily.

6 The at-grade crossing at South Napa Junction Road is not open to the public; access is controlled by a locked gate operated by a security guard.

Aviation

The Napa County Airport is located approximately 3.5 miles northwest of the Project site. The County-owned airport provides three runways ranging from 2,510 to 5,931 feet in length. The Federal Aviation Administration indicates that more than 65,000 aircraft operations occur at or within 20 miles of the airport. The northern half of the Project site is located within Napa County Airport Land Use Compatibility Zone E (Other Airport Environs). Zone E is defined as the area where structures are routinely over flown by aircraft at altitudes of greater than 1,000 feet with a low risk for noise intrusion.

Planned Transportation Network Changes

Roadway

Several roadway network changes are called for by the Napa County General Plan, the American Canyon General Plan Circulation Element Update, and MTC's Transportation 2035 Plan for the San Francisco Bay Area. The most recent document summarizing planned roadway network changes is the State Route 29 (SR 29) Gateway Corridor Improvement Plan, published in October 2014 by the NVTA (then NCTPA). These documents call for widening of SR 29 to three lanes in each direction from the SR 221 interchange to the southern County Line. A flyover ramp would be constructed for traffic traveling from southbound SR 221 (Napa-Vallejo Highway) to southbound SR 12 / SR 29. A grade-separated diamond interchange is planned at the SR 29 / SR 12 / Airport Boulevard intersection.

The City of American Canyon Circulation Element (March 2013) indicates that north of South Napa Junction Road, Newell Drive would consist of one 13-foot wide vehicular travel lane in each direction, separated by a 36-foot landscaped median. Five-foot bike lanes will be located next to outside curbs, adjacent to a six-foot landscaped area and an eight-foot sidewalk on the edge of the right-of-way. South of South Napa Junction Road, and connecting to existing Newell Drive, which is located just south of the Project boundary, Newell Drive would be a four-lane arterial. In addition, the City's Circulation Element proposes an extension of Newell Drive from the northern Project boundary to SR 29, providing additional north-south vehicle capacity through the City. However, the extension of Newell Drive north of South Napa Junction Road is not included in the American Canyon Traffic Impact Fee (TIF) Program (see below). Although it is not included in the TIF, the segment extending to the northern boundary of the proposed Project would be implemented as part of this Project; the segment from the northern Project boundary to SR 29 is unfunded at this time.

With respect to the Soscol flyover ramp, Caltrans has studied potential improvements to this intersection and released a Draft EIR in April 2015 that studies two alternatives: a partial and a fully grade-separated interchange. The partial grade-separated solution would involve a flyover in the southbound direction only, allowing southbound traffic on SR 221 to continue free-flow traffic onto southbound SR 29. The traffic signal for other turning movements would be left in place. The fully grade-separated interchange would eliminate the traffic signal and construct a single-lane connector ramp for southbound Soscol traffic to flow onto northbound SR 29, with

movement onto Soscol Ferry Road restricted to right-in/right-out only. The State Route 29 Gateway Corridor Improvement Plan recommends a full interchange configuration for the SR 29/SR 221 (Soscol) intersection, which is consistent with Caltrans's preference.

The Napa Pipe EIR analysis also shows several potential improvements in the vicinity of the Project. Mitigation measures include adding a second eastbound right-turn lane at the intersection of SR 29 / SR 12 / SR 121, though this improvement is not yet planned nor funded. A second northbound left-turn lane is proposed at the intersection of SR 29 and South Kelly Road, and a separate study is evaluating the addition of a dedicated eastbound right-turn lane from Devlin Road to SR 29 at this location.

The City of American Canyon TIF Program was updated in early 2015. The program is structured to cover approximately 40 percent of the estimated cost of included improvements and relies on Federal and State funding for the balance of the cost. Projects included in the program include:

- Widening SR 29 from the south City limits (just south of Kimberly Drive) to the north City limits (just south of South Kelly Road) and the associated intersection improvements at:
  - Kimberly Drive
  - American Canyon Road
  - Crawford Way
  - Donaldson Way
  - South Napa Junction / Poco Way
  - Eucalyptus Drive
  - Rio Del Mar
  - Napa Junction Road
- Widening Green Island Road
- Widening Paoli Loop Road
- Widening Eucalyptus Drive
- Improving the South Napa Junction/Newell Drive intersection
- Extending the existing South Napa Junction Road
- Extending the existing Main Street
- Extending the existing Devlin Road
- Class I bicycle facilities along the River to Ridge, San Francisco Bay, Vine, Silver Oak, and Entrada Trails.

Many of these improvements have been contemplated previously by the City, the County, and Caltrans, and would be needed with or without development of the Project. There is currently no timeline for construction of many of these improvements, and other than the Devlin Road segments mentioned above, none have been assumed in this analysis, as most have not be approved and/or funded. The transportation impact analysis does not include completion of any of these projects, except for scenarios that explicitly state assumptions regarding Devlin Road extensions.

Transit

The Napa County Short Range Transit Plan (June 2013) helps the NVTA determine the most efficient and effective use of current and future resources to meet future projected transit needs for Napa County. This document includes a service improvement plan for the ten-year planning horizon out to 2022. The service improvement plan consists of four basic elements: Local Napa Fixed Route Service, Countywide Routes, Community Shuttles, and Paratransit VINEGo Service.

Recently Route 10, which ran from Calistoga to Vallejo, was split into two segments to reduce unpredictability of travel time and improve on-time performance. A new Route 11 was created from Vallejo to the park-and-ride lot at Redwood Road and Solano Avenue in Napa, and Route 10 now runs between Calistoga and Napa Valley College. This was the only planned improvement to the Countywide Routes. Route 21 is a new intercity route from Napa to Suisun City that began in mid-2013. It links NVTA routes to Solano County's transit agencies as well as Amtrak's Capital Corridor and Greyhound bus lines. No other changes are planned to Regional Routes. No changes are planned to the Local Napa Fixed Routes that would impact the Project.

NVTA is also planning to convert ACT from a fixed-route service to a door-to-door service during non-peak periods. Riders will be able to call ACT and request transportation to any location within City limits. The cost savings would increase the frequency of Route 11 during peak demand hours. There is no planned date for these changes.

The proposed Project also indicates that a future transit route could be considered along Newell Drive and the east-west connector to SR 29. This would likely be an extension of ACT and the roadway cross-sections have been designed to accommodate future transit vehicles and stops, though there are no plans from transit providers to provide service internal to the Project.

Bicycle

For local reference, the American Canyon Bicycle Plan (January 2012), prepared by the NVTA (then NCTPA), provides an assessment of current conditions as well as proposed improvements to the bike network. The Plan was developed as part of the Napa County Bicycle Plan (2012), a component of NVTA's Countywide Bicycle Plan Update. The document serves as a guide for development of bikeways, bicycle policies, bicycle programs, and bicycle facility design standards to make bicycling throughout Napa County.

The Plan also identifies several proposed bicycle facilities in the vicinity of the site. A network of Class I paths would provide north-south access to the site via the railroad right-of-way along the western border of the Project site, a portion of SR 29, as well as along the proposed Vine Trail alignment, which extends north of Newell Drive through the Project site. Proposed east-west Class I paths include one along Watson Lane that follows the Vine Trail alignment and another that follows the River to Ridge Trail alignment along Eucalyptus Drive across SR 29, where it would drop south and cut east through the southern portion of the Project site. The Ridge Trail alignment also follows a portion of the Newell Drive extension and creates a loop through the open space to the east of the Project site.

Several proposed Class II bike lanes would connect to the overall bikeway network in the vicinity of the Project, including east-west lanes along Donaldson Way to Newell Drive, along Eucalyptus Drive from Wetlands Edge Road to the proposed Class I at Theresa Avenue, and along Hess Road. North-south lanes are proposed along SR 29 from American Canyon Road to north of South Kelly Road as well as along a continuous series of residential streets from Cassayre Drive to Lombard Road.

The Solano Countywide Bicycle Plan (2012) is a component of the long-range Solano Comprehensive Transportation Plan (CTP) and serves as a guide for bikeway facilities and expenditures through horizon year 2035. The main goal is to create a connected bicycle network throughout Solano County, consisting of bikeway routes and signage as well as support programs like bicycle lockers and showers. The Plan also makes policy and program recommendations for local application that intend to encourage, implement, and promote bicycle transportation within for each jurisdiction. Projects shown on the Proposed System map, consisting of approximately 148 miles of bikeway facilities, are ranked by prioritization for funding sources on state and federal levels, programmed through the Solano Transportation Authority (STA). Several of these proposed facilities travel near the study area, including:

- Broadway Street (#61 Alameda Street to Napa County Line)
- Broadway to 4 lanes and Pedestrian/Bicycle Path (#70 Napa County Line to Curtola Parkway)
- American Canyon Road (#72 Hiddenbrooke Parkway to Solano-Napa County Limit)
- Suisun Valley Road (#91 Solano-Napa County Line to Mangels Boulevard)
- Jamieson Canyon Corridor Bicycle-Pedestrian Route (#99 Red Top Road to Napa County Line)
- Jamieson Canyon Road Bicycle Route (#100 Red Top Road to Napa County Line)

Pedestrian

The Circulation Element of the City of American Canyon General Plan calls for three pedestrian grade-separated crossings across SR 29 at American Canyon Road, Donaldson Way, and Napa Junction Road. Beyond those improvements, the Plan "supports safe, complete and well-connected neighborhood street, bicycle, and pedestrian access and connections that balance circulation needs with the neighborhood context…the City's Complete Streets shall enable safe, comfortable, and attractive access for all users: pedestrians, motorists, bicyclists, and transit riders of all ages and abilities, in a form that is compatible with and complementary to adjacent land uses, and promotes connectivity between uses and areas." Another stated goal is to develop a Pedestrian Master Plan to ensure that a complete sidewalk network is installed and that locations make sense within the context of the adjacent land uses and surrounding streets.

4.12.3 Regulatory Framework

Federal

There are no federal regulations that pertain to transportation and circulation that are applicable to the analysis of the Project's effects.

State

California Public Utilities Commission

The California Public Utilities Commission (CPUC) is the state agency responsible for rail safety. The agency's jurisdiction includes railroad interlocking plants and public highway grade crossings. CPUC approval is required to modify a railroad interlocking plant (including construction of a new spur track) or modification to an existing public railroad grade crossing. Completion and submittal of a General Order 33-B is required for any proposed work to a railroad interlocking plant (e.g., spur track) and a General Order 88-B is required for any proposed work to a public highway grade crossing.

Senate Bill 743

On September 27, 2013, California Governor Jerry Brown signed Senate Bill 743 into law and started a process that could fundamentally change transportation impact analysis as part of CEQA compliance. These changes would include elimination of auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts in many parts of California (if not statewide).

Existing rules treat auto delay and congestion as an environmental impact. Instead, SB 743 requires the CEQA *Guidelines* to proscribe an analysis that better accounts for transit and reducing greenhouse gas emissions. In this proposal, the Office of Planning and Research (OPR) selected vehicle-miles traveled (VMT) as a replacement measure not only because it satisfies the explicit goals SB 743, but also because VMT is already used in CEQA to study greenhouse gas and energy impacts. VMT is also already used in planning for regional sustainable communities strategies. Therefore, the proposal is not adding a new CEQA requirement; instead, it suggests replacing LOS with an analysis that is already widely used in CEQA.

While the CEQA *Guidelines* update for SB 743 is still in preliminary form, some agencies are beginning to adopt new VMT thresholds in order to assess impacts. Measuring VMT rather than number of trips generated by a project places a higher weight on longer trips, which contribute more to traffic congestion and greenhouse gas emissions than shorter trips since vehicles are on the road for a longer amount of time.

It is anticipated that the Guidelines would officially become law sometime in 2016. Typically, lead agencies have up to 120 days to update their guidance to comply with the law, though additional time may be available before full implementation is required. The new process would not affect projects that submitted their Notice of Preparation document before Guidelines have

become law, and thus, no VMT estimates are provided within this document. Additionally, the City of American Canyon has not yet adopted thresholds for VMT to determine impacts.

Local

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) serves as the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area. The MTC created and maintains the Metropolitan Transportation System (MTS), a multimodal system of highways, major arterials, transit services, rail lines, seaports, airports, and transfer hubs that are critical to regional transportation between the nine Bay Area counties. MTS facilities within the study area include I-80, SR 12, SR 29, SR 37, SR 121, SR 221, Airport Boulevard, and American Canyon Road. The MTS is incorporated into MTC's 2001 Regional Transportation Plan (RTP), which is used as a guideline in prioritizing for planning and funding of facilities in the Bay Area. Facilities included in the MTS provide convenient and efficient connections to major Bay Area activity centers and provide alternative routes or modes for congested areas or regions with limited facilities.

American Canyon General Plan

Policies contained in the City's General Plan that are applicable to the analysis of potential Project impacts on transportation and circulation are found in the Land Use Element. An analysis of consistency with General Plan policies adopted to prevent or mitigate an environmental effect is provided in Section 4.8, *Land Use and Planning*, of this EIR. This section considers performance standards established by Policy 1.6 in the General Plan as a threshold of significance for impacts to intersections, as further discussed in Section 4.12.4, *Impacts and Mitigation Measures*.

American Canyon Traffic Impact Study Guidelines

The City of American Canyon Traffic Impact Study Guidelines (September 2007) provides a general guide to assessing potential traffic impacts of new development. A TIS is necessary when a project generates 20 or more net new vehicle trips during weekday AM or PM peak hour or weekend peak hour of generation. The Institute of Transportation Engineers (ITE) Trip Generation Manual was used to calculate vehicle traffic generated by development projects. A total of 26 intersections where the proposed Project would add 50 or more peak hour vehicles were selected as study intersections in consultation with City staff. Intersections on SR 29 are analyzed using a tool that captures the effects of the transportation system as a whole VISSIM. An analysis was conducted for six scenarios that represent various conditions involving the following variables: timeframe, traffic generated by nearby developments, traffic generated by regional growth, and traffic generated by the proposed Project. These scenarios are described in Section 4.12.4, *Methodology*.

Cumulative conditions should reflect buildout of the City's General Plan and should be developed with the most recent version of the City or County travel demand forecast model.

Intersections with more than 50 peak-hour project trips should be included in the TIS, as well as all access intersections and driveways and intersections adjacent to the Project site.

A 2011 City of American Canyon Information Sheet titled "Traffic Study Thresholds of Significance" is the most up-to-date document specifying minimum LOS standards. According to this document and the Traffic Impact Study Guidelines, significant impacts are considered to have occurred if:

- Traffic related to the proposed Project results in LOS D with an average vehicle delay of 40 seconds or worse for a signalized intersection during peak hour. Excepted intersections are Flosden Road/American Canyon Road and SR 29/American Canyon Road (#8), which would operate at LOS E/F with build-out development.
- Traffic related to the proposed Project results in an increase of more than five seconds at any intersection (signalized and unsignalized) that operates unacceptably in the No Project condition.
- Traffic related to the proposed Project results in the deterioration of an unsignalized intersection from an acceptable LOS in the No Project condition to an unacceptable LOS in the Plus Project condition.
- The proposed Project results in potential conflicts for pedestrians and bicyclists.
- The proposed Project does not satisfy Americans with Disabilities Act requirements.
- The proposed Project fails to provide adequate bicycle and pedestrian access.
- The proposed Project exacerbates a current unsafe pedestrian or bicycle condition.
- The proposed Project causes transit demand above the levels able to be adequately provided by local transit operators.
- The proposed Project results in interference with traffic flow on public streets at site access driveways (including queuing from nearby signals).
- The proposed Project results in potential internal circulation conflicts for pedestrians or motorists.
- The proposed Project results in insufficient or inadequate accessibility for delivery or service vehicles that would interfere with traffic flow.
- The proposed Project results in circulation patterns that are inconsistent with General Plan policies.
- The proposed Project results in Project parking demand that would exceed the proposed parking supply on a regular or frequent basis.
- The proposed Project results in an increased use of permanent neighborhood parking for area residents.

With respect to the last two criteria that address parking impacts, while they provide guidance for technical analysis contained in traffic impact studies that the City has used in the past, CEQA no longer requires analysis of parking impacts. In San Franciscans Upholding the Downtown Plan

(SFDUP) v. City and County of San Francisco (2002) 102 Cal.App.4th 656 ("SFUDP"), the decision stated that "parking deficits are an inconvenience to drivers, but are not a significant physical impact on the environment." However, to the extent that secondary physical impacts could be triggered by a parking shortfall, such as cars circling a block or an area searching for parking, those impacts should be disclosed in an EIR. Consistent with the SFDUP decision, in 2010, the Governor's Office of Planning and Research amended Appendix G of the CEQA *Guidelines* to remove the significance criterion about inadequate parking capacity. Therefore, this EIR will present the Project's parking demand and supply data for informational purposes only, and no significance conclusions will be made with respect to that information. The parking information is contained in the following "Approach to the Analysis" section.

Napa Valley Transportation Authority

The NVTA serves as the countywide transportation planning body for the incorporated and unincorporated areas of Napa County. Since the County does not have a congestion management agency, NVTA works with the Metropolitan Transportation Commission (MTC) to prepare the Napa County portion of the Regional Transportation Plan (RTP), which is a long-range development plan to allocate state and federal transportation funds. In 1999, the NVTA (then NCTPA) adopted the Strategic Transportation Plan, which was intended to be a long-range guide for decision making and funding of Napa County roadways, transit, and bicycle facilities. The Strategic Transportation Plan includes the following goals:

- Secure funding to maintain and improve the existing transportation infrastructure in the Napa region.
- Ensure the equitable distribution of available funding.
- Reduce vehicle accidents through the implementation of projects that enhance safety.
- Increase the role of transit in alleviating congestion and enhancing mobility.
- Enhance transit through the expansion and efficient integration of services and facilities.
- Preserve the Napa region's commitment to extraordinary paratransit service that exceeds ADA minimum requirements.
- Ensure that all transit services, facilities, and programs are designed for "Universal Access."
- Increase bicycle use for commute as well as recreational trips.
- Preserve the efficiency and effectiveness of travel corridors by considering all modes in the planning, designing, and construction process.
- Ensure that the general objectives of the State (CEQA) and Federal (NEPA) environmental guidelines are used in the planning, programming, and implementing stages of project approval and development.

County of Napa General Plan

Napa County adopted the latest Napa County General Plan on June 3, 2008. The Circulation Element of the 2030 Napa County General Plan provides existing and proposed maps of the County's transit network, vehicular circulation network, and bicycle/pedestrian circulation network. The 2030 Napa County General Plan outlines three goals that address circulation and land use, state highway routes and county roads, transit services, air transportation, rail service, navigable waterways, and non-motorized transportation:

- The County's transportation system shall be correlated with the policies of the Agricultural Preservation & Land Use Element and protective of the County's rural character.
- The County's transportation system shall provide for safe and efficient movement on well-maintained roads throughout the County, meeting the needs of Napa County residents, businesses, employees, visitors, special needs populations, and the elderly.
- The County's transportation system shall encompass the use of private vehicles, transit, paratransit, walking, bicycling, air travel, rail, and water transport.

Additionally, the following policy is included in the 2030 Napa County General Plan:

- The County shall seek to maintain an adequate LOS on roads and at intersections as follows. The desired LOS shall be measured at peak hours on weekdays.
  - The County shall seek to maintain an arterial LOS D or better on all county roadways, except where maintaining this desired LOS would require the installation of more travel lanes than shown on the Circulation Map (page 127 of the 2030 General Plan).
  - The County shall seek to maintain a LOS D or better at all signalized intersections, except where the LOS already exceeds this standard (i.e. LOS E or F) and where increased intersection capacity is not feasible within the existing right of way.
  - No single LOS standard is appropriate for unsignalized intersections, which shall be evaluated on a case-by case basis to determine if signal warrants are met.

The County's interpretation of these policies with respect to this Project is discussed later in this section.

City of Vallejo General Plan

The 1999 Vallejo General Plan establishes the goals and policies guiding land use and development within the City's Planning Area. Land use, transportation systems, environmental concerns, and economic and equity goals are discussed with the General Plan. The General Plan also includes goals and policies for vehicles, pedestrian and bike systems, public transit, freight movement, and congestion management strategies. Key policies related to the proposed Project include the following:

- **Mobility Goal – Policy 6:** Prior to approval of a particular land use, it should be analyzed to determine its impact on the existing circulation system.

- **Traffic Safety Goal – Policy 1:** Reduce excessive speeds and amount of traffic in residential neighborhoods through a variety of techniques, including narrowing of streets or intersections, landscaping, diversion of traffic, and closing of streets. Innovative approaches to street design shall be encouraged as an incentive for greater use of the Planned Development approach to land development and neighborhood design.

- **Compatibility with Adjoining Land Uses Goal – Policy 3:** All truck traffic and regional bus service should be restricted to peripheral major streets and north-south, east-west arterial and collector streets having the least number of residences and schools. Only small trucks servicing the neighborhood centers should be allowed on other streets. Where possible, unloading facilities should be provided off alleys rather than streets.

- **Non-Motorized Transportation Goal 2 – Policy 2:** Provide safe pedestrian crossing, e.g., signalized crosswalks and pedestrian overpasses, on major streets where day-to-day activities warrant them. Pedestrian walkways should be provided between residential neighborhoods and high use areas such as schools, parks, and commercial centers. The walkways should be safe for adjoining property owners and users.

The City of Vallejo is in the process of updating its General Plan. However, for the purposes of this Environmental Impact Report (EIR), the current 1999 General Plan is referenced, since the update will not be complete until 2016.

Vallejo Traffic Impact Study Guidelines

The City of Vallejo has prepared guidelines for traffic impact analyses (The City of Vallejo Traffic Impact Analysis/Study Guidelines, September 2007). The guidelines include topics such as defining the study area, obtaining traffic counts, identifying the peak periods for analysis, defining analysis scenarios, discussion of onsite access and circulation, the intersection analysis method, forecasting traffic, assessment of traffic impact significance, mitigation approach, sight distance assessments, assessment of impacts on non-auto modes of travel, and assessment of the need for roadway upgrades. Significant impacts are considered to have occurred if:

- The volume-to-capacity ratio increases by more than 0.04 at an intersection that works at LOS C without the project.

- The volume-to-capacity ratio increases by more than 0.02 at an intersection that works at LOS D without the project.

- The volume-to-capacity ratio increases by more than 0.01 at an intersection that works at LOS E/F without the project.

The LOS and volume-to-capacity ratios are based on the delay methodology outlined in the 2000 HCM.

4.12.4 Impacts and Mitigation Measures

Significance Criteria

According to Appendix G of the CEQA *Guidelines*, a project would have a significant impact on the environment if it would:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (Impacts 4.12-1, 4.12-2, 4.12-3, and 4.12-9).
- Conflict with an applicable congestion management program, including but not limited to LOS standards and travel demand measures, or other standards established by the congestion management agency for designated roads or highways (Impact 4.12-4).
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks (Impact 4.12-5).
- Substantially increase hazards due to a design feature. (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (Impact 4.12-6).
- Result in inadequate emergency access (Impact 4.12-7).
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities (Impact 4.12-8).

For the purposes of determining significant impacts, the following criteria from the local plans and guidelines previously stated in Section 4.12.3, *Regulatory Framework,* for study intersections would be used:

- At a signalized intersection on a State facility outside of the City of American Canyon (intersections #1, #2, #3, #4, #14, #15, #24, and #25), degrade the AM or PM peak hour level of service from an acceptable LOS C or better to LOS D, E, or F.
- At a signalized intersection on a City of American Canyon facility (intersections #6, #7, #8, #10, #19, and #22), degrade the AM or PM peak hour level of service from an acceptable LOS D with an average vehicle delay of 40 seconds or better to LOS D with an average vehicle delay of 40 seconds or worse, LOS E, or LOS F.
- At a signalized intersection on a City of Vallejo facility (intersections #12, #13, and #23), increase the volume-to-capacity ratio more than:
  - 0.04 at an intersection that works at LOS C without the Project.
  - 0.02 at an intersection that works at LOS D without the Project.
  - 0.01 at an intersection that works at LOS E/F without the Project.

- For all study intersections, traffic related to the proposed Project results in an increase of more than five seconds or adds more than 50 vehicles per hour in the AM or PM peak hour at an intersection that would operate at LOS E or F in the No Project condition (excluding excepted intersections #11, #20, and #21).

A construction-related impact to the circulation system would be significant if it adversely affects transportation circulation or infrastructure conditions. Construction-related Impacts would be significant if:

- The construction activity causes substantial adverse effects to vehicle, pedestrian, and bicycle circulation.
- The construction activity causes substantial adverse effects to pavement conditions.

For the purposes of determining significant impacts, the following criteria from the 2011 City of American Canyon Information Sheet titled "Traffic Study Thresholds of Significance" (see Section 4.12.3, *Regulatory Framework*) would also be observed:

- The Project results in interference with traffic flow on public streets at site access driveways via queuing at adjacent intersections.
- The Project results in potential internal circulation conflicts for pedestrians or motorists.
- The Project results in insufficient or inadequate accessibility for delivery or service vehicles that would interfere with traffic flow.
- The Project results in potential conflicts for pedestrians and bicyclists.
- The Project does not satisfy Americans with Disabilities Act requirements.
- The Project fails to provide adequate bicycle and pedestrian access.
- The Project exacerbates a current unsafe pedestrian or bicycle condition.
- The Project causes transit demand above the levels able to be adequately provided by local transit operators.

Approach to Analysis

Fehr & Peers prepared a transportation analysis in accordance with the American Canyon Traffic Impact Study Guidelines (September 2007) that evaluated impacts of the proposed Project on the local transportation network. The analysis is wholly contained in this section and supporting information is provided in Appendix J.[7] The methodology of the transportation analysis is described as follows.

[7] Supporting information includes traffic counts, travel time runs, Synchro and VISSIM intersection analysis summaries, peak hour signal warrant analysis worksheets, and collision data.

The following network scenario combinations are evaluated for potential impacts, including during weekday AM and PM peak hours:

- **Scenario 1: Existing Conditions**. Existing volumes obtained from counts collected in May and June 2014.
- **Scenario 2: Existing Plus Project Conditions.** Scenario 1 volumes plus traffic generated by the proposed Project.
- **Scenario 3: Existing Plus Background Conditions.** Existing volumes plus traffic from approved but not yet constructed developments in the area.
- **Scenario 4: Existing Plus Background Plus Project Conditions.** Scenario 3 volumes plus traffic generated by the proposed Project.
- **Scenario 5: Cumulative Conditions.** Existing volumes from Scenario 1 plus growth from reasonable buildout land use projections for the year 2035 from the Napa-Solano County Travel Demand Forecasting Model (N-STDM).
- **Scenario 6: Cumulative Plus Project Conditions.** Scenario 5 volumes plus traffic generated by the proposed Project.

Current accepted methodologies, such as the Institute of Transportation Engineers' (ITE) Trip Generation methodology, are primarily based on data collected at suburban, single-use, freestanding sites. These defining characteristics limit their applicability to mixed-use or multi-use development projects, such as the proposed Project, which, given its land use mix, design features, and setting, would include characteristics that influence travel behavior differently from typical single-use suburban developments. Thus, traditional data and methodologies, such as ITE, would not accurately estimate the Project vehicle trip generation.

In response to the limitations in the ITE methodology, and to provide a straightforward and empirically validated method of estimating vehicle trip generation at mixed-use developments, the US Environmental Protection Agency (EPA) sponsored a national study of trip generation characteristics of multi-use sites. Travel survey data was gathered from 239 mixed-use developments (MXDs) in six major metropolitan regions, and correlated with characteristics of the sites and their surroundings. The findings indicate that the amount of external traffic generated is affected by a wide variety of factors including the mix of employment and residents, the overall size and density of the development, the internal connectivity for walking or driving among land uses, the availability of transit service, and the surrounding trip destinations within the immediate area outside the Project site.

These characteristics were related statistically to trip behavior observed at the study development sites using statistical techniques. These statistical relationships produced equations, known as the EPA MXD model that allows predicting external vehicle trip reduction as a function of the MXD characteristics. Applying external vehicle trip reduction percentage to "raw trips", as predicted by ITE, produces an estimate for the number of vehicle trips traveling in or out of the site.

The MXD model has been approved for use by the EPA. It has also been peer-reviewed in the ASCE Journal of Urban Planning and Development, peer-reviewed in a 2012 TRB paper evaluating various smart growth trip generation methodologies, recommended by SANDAG for use on mixed-use smart growth developments, promoted in an American Planning Association (APA) Planning Advisory Service (PAS), which recommended it for evaluating traffic generation of mixed-use and other forms of smart growth. It has also been used successfully in multiple certified EIRs in California.

Internal trips are responsible for an 9.5 percent reduction of daily external vehicle trips, a 8.3 percent reduction of AM peak hour external vehicle trips, and a 15.9 percent reduction of PM peak hour external vehicle trips. In total, the MXD trip generation methodology is responsible for a 11.1 percent reduction of daily external vehicle trips, a 11.7 percent reduction of AM peak hour external vehicle trips, and a 18.3 percent reduction of PM peak hour external vehicle trips. Some examples of an internal trip would be a parent living in one of the Project dwelling units dropping off a student at the elementary school, a person living in one of the Project dwelling units using the onsite retail or community center, or a hotel guest accessing the restaurant or winery. Many of these trips would potentially still occur by vehicle, though they would remain internal to the larger Project site. These trips will be included in planning the site access and circulation network.

Overall, the Project is estimated to generate 14 percent fewer daily external vehicle trips, 24 percent fewer AM peak hour external vehicle trips, and 21 percent fewer PM peak hour external vehicle trips than estimated by the unadjusted ITE methodology. These percentages are comparable to reductions for similar developments in locations with similar geographic attributes.

Input values were collected for the MXD model for use in application on the proposed Project trip generation. The MXD model uses internal Project information such as land use mix, Project area, intersection density, and transit stop placement as well as local and regional demographic data such as average household size and vehicle ownership, employment within one mile of the site, and employment within a 30 minute transit trip.

Table 4.12-7 summarizes the estimated trip generation for the proposed Project using the MXD methodology for a typical weekday. As shown the table, the proposed Project is estimated to generate 15,527 net daily vehicle trips, with 952 net trips occurring during the AM peak hour, and 1,305 occurring during the PM peak hour.

Trip distribution is defined as the directions of approach and departure that vehicles would use to arrive at and depart from the site. The directions of approach and departure of Project trips were based on the Napa/Solano County Travel Demand Forecasting Model and existing travel patterns in the area. U.S. Census data for work trips originating in the City of American Canyon was used to further refine the distribution for residential uses and school staff trips. The destinations were generally tied to regional employment centers in San Francisco, the Peninsula, the East Bay, and cities along US-101 and I-80.

TABLE 4.12-7
PROJECT TRIP GENERATION SUMMARY

Description	Land Use	ITE Code	Units	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out	Total
Residential[1]	Single-Family	210	555 DU	5,284	104	312	416	350	205	555
Residential[1]	Apartment	220	475 DU	3,002	48	188	236	182	97	279
Residential[1]	Condominium	230	223 DU	1,296	16	82	98	78	38	116
Office	General Office	710	14.8 KSF	163	20	3	23	4	18	22
Retail	Shopping Center	820	36.0 KSF	3,494	52	32	84	145	157	302
Restaurant	Restaurant	931	11.8 KSF	1,061	8	2	10	59	29	88
Winery/Brewery	Restaurant	931	8.9 KSF	804	6	1	7	45	22	67
School	Elementary School	520	600 Students	774	149	121	270	44	46	90
Hotel	Resort Hotel	330	200 Rooms	1,400	44	18	62	36	48	84
Community Center	Recreational Community Center	495	20 KSF	676	27	14	41	27	28	55
Event Space / Amphitheater / Farmers' Market / Food Truck Court / Open Space / Community Plaza[2]										
Raw External Project Trips				**17,954**	**474**	**773**	**1,247**	**970**	**688**	**1,658**
Reductions										
Internal Capture[3]				(1,711)	(52)	(52)	(104)	(132)	(132)	(264)
External (Walk, Bike, and Transit)[4]				(290)	(24)	(18)	(42)	(15)	(25)	(40)
Total MXD Model External Trip Reduction[5]				**(2,001)**	**(76)**	**(70)**	**(146)**	**(147)**	**(157)**	**(304)**
55% School Reduction for Internalization[6]				(426)	(82)	(67)	(149)	(24)	(25)	(49)
Total External Trip Reduction				**(2,427)**	**(158)**	**(137)**	**(295)**	**(171)**	**(182)**	**(353)**
Net New External Project Trips				***15,527***	***316***	***636***	***952***	***799***	***506***	***1,305***

NOTES:
1 Total residential unit count includes the potential for up to 50 live/work units in the Napa Valley Ruins & Gardens portion of the Project.
2 Due to the weekend/non-weekday nature of events, these land uses, which include 71,210 sf event space (indoor and outdoor), 12,466 sf amphitheater, 3.3 acres outdoor spaces, 31,085 sf farmers' market, 12,822 sf food truck court, and a community plaza, were not included in typical daily and peak hour trip generation totals.
3 Internal Capture: Daily = 9.5%, AM Peak Hour = 8.3%, PM Peak Hour = 15.9%
4 External Walk/Bike/Transit: Daily = 1.6%, AM Peak Hour = 3.4%, PM Peak Hour = 2.4%
5 Reductions based on application of MXD model: Daily = 11.1%, AM Peak Hour = 11.7%, PM Peak Hour = 18.3%
6 Due to proximity of school to residences and service area.

SOURCE: Fehr & Peers, 2016.

The employment forecasts prepared for Plan Bay Area 2040 (i.e., growth from 2010-2040) estimate an increase of just under 19,000 new jobs in Napa County, approximately 375,000 new jobs in Alameda and Contra Costa Counties, approximately 65,000 new jobs in Sonoma County, and just under 50,000 new jobs in Solano County. The proposed distribution of trips from the Project reflects these future trends.

The same methodology was used for trips generated by retail, brewery, and winery uses. Though non-residential uses were shown to predominantly generate local trips, non-residential uses provided by the Project would be destination-type uses and were thus assumed to mirror the distribution for residential trips. All school trips (non-staff) were assumed to begin and end

within the City of American Canyon. The general directions of approach and departure for the land use categories are shown in **Figure 4.12-4** and are summarized below:

- To/from the north (SR 12, SR 29, SR 221): 22 percent
- To/from the east (I-80 and American Canyon Road): 36 percent
- To/from the south (SR 37 and SR 29 in Vallejo): 38 percent
- To/from within American Canyon: four percent

The Project trips were assigned to the roadway system based on the directions of approach and departure discussed above. **Figure 4.12-5** shows the number of net new Project trips assigned to each turning movement at each study intersection. The trip assignment was added to the existing volumes to establish volumes under Existing Plus Project Conditions, as shown on **Figure 4.12-6**.

As previously stated, this EIR presents the Project's parking demand and supply data for informational purposes only, and no significance conclusions are made with respect to the information provided below.

Table 4.12-8 outlines the vehicle parking requirements by land use type according to Sections 19.21.030 (vehicle parking requirements) of the City's Municipal Code. These calculations assume no shared parking.

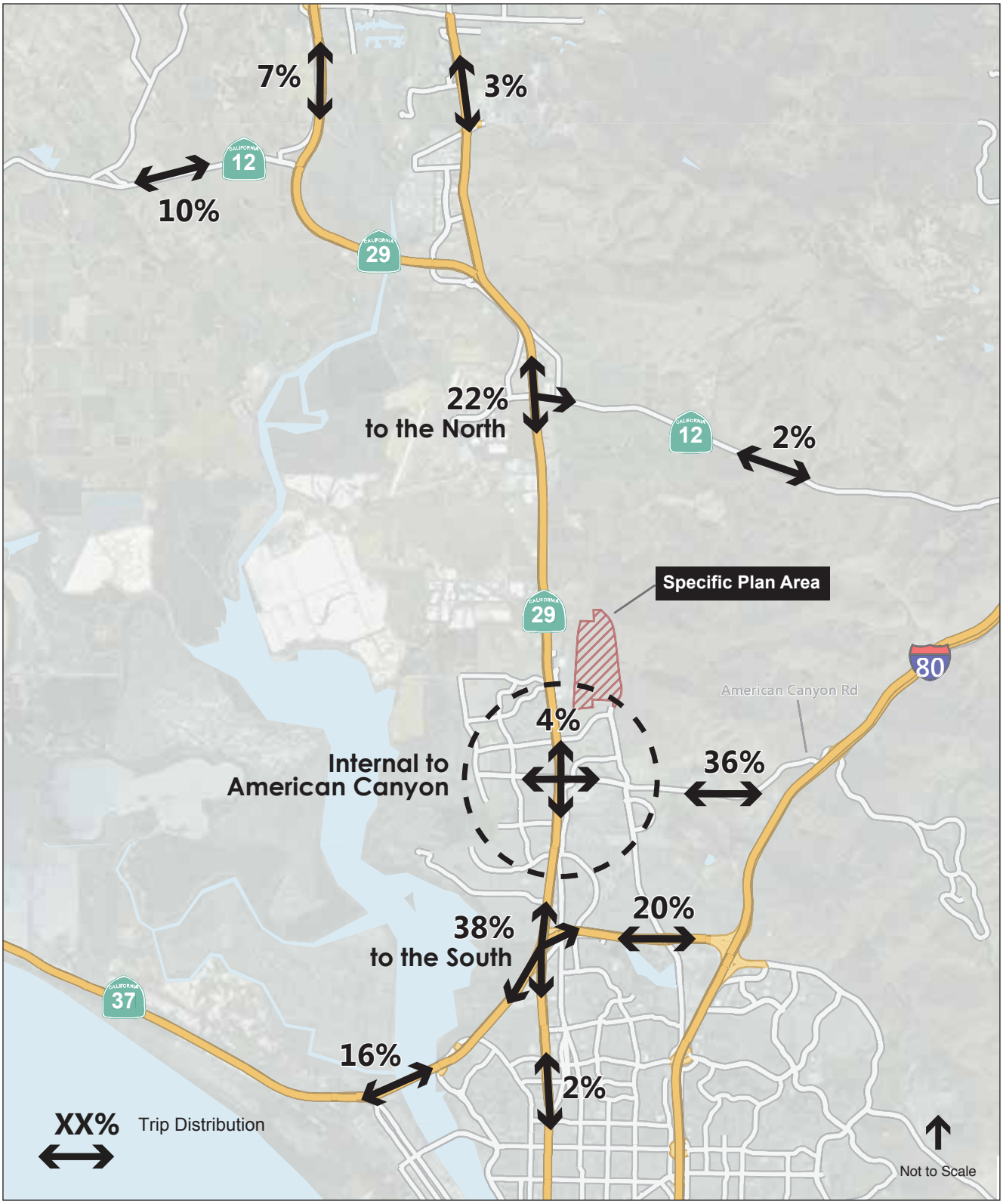
TABLE 4.12-8
VEHICLE PARKING REQUIREMENTS

Land Use	Vehicle Parking Requirement[1]	Size (Gross)	Spaces Required
Residential Areas			
Elementary School	0.2 spaces per student	600 Students	120
Single Family Residential	2 spaces per unit	555 units	1,110
Apartment	1.5 spaces per unit	475 units	713
Condominium	1.5 spaces per unit	223 units	335
Total Residential Parking Spaces Required			**2,278**
Non Residential Areas			
Hotel	1.29 spaces per hotel room	200 Rooms	258
Shopping Center	1 space per 300 square feet of gross floor area	35,968 sf	119
Restaurant / Winery / Brewery	1 space per 100 square feet of gross floor area	20,725 sf	208
Event Space / Amphitheater / Farmers' Market / Food Truck Court / Open Space / Community Plaza	None stated	See Table 4.12-7	--
Community Center	1 space per 100 square feet of gross floor area	20,000 sf	200
Total Non-Residential Parking Spaces Required			**785**
Total Residential and Non-Residential Parking Spaces Required			**3,063**

NOTES:

[1] Parking Requirements by Land Use, Section 19.21.030, City of American Canyon Municipal Code. For uses not specified, including hotel and elementary school, requirements derived from ITE Parking Generation, 4th edition.

SOURCE: Fehr & Peers, 2016.

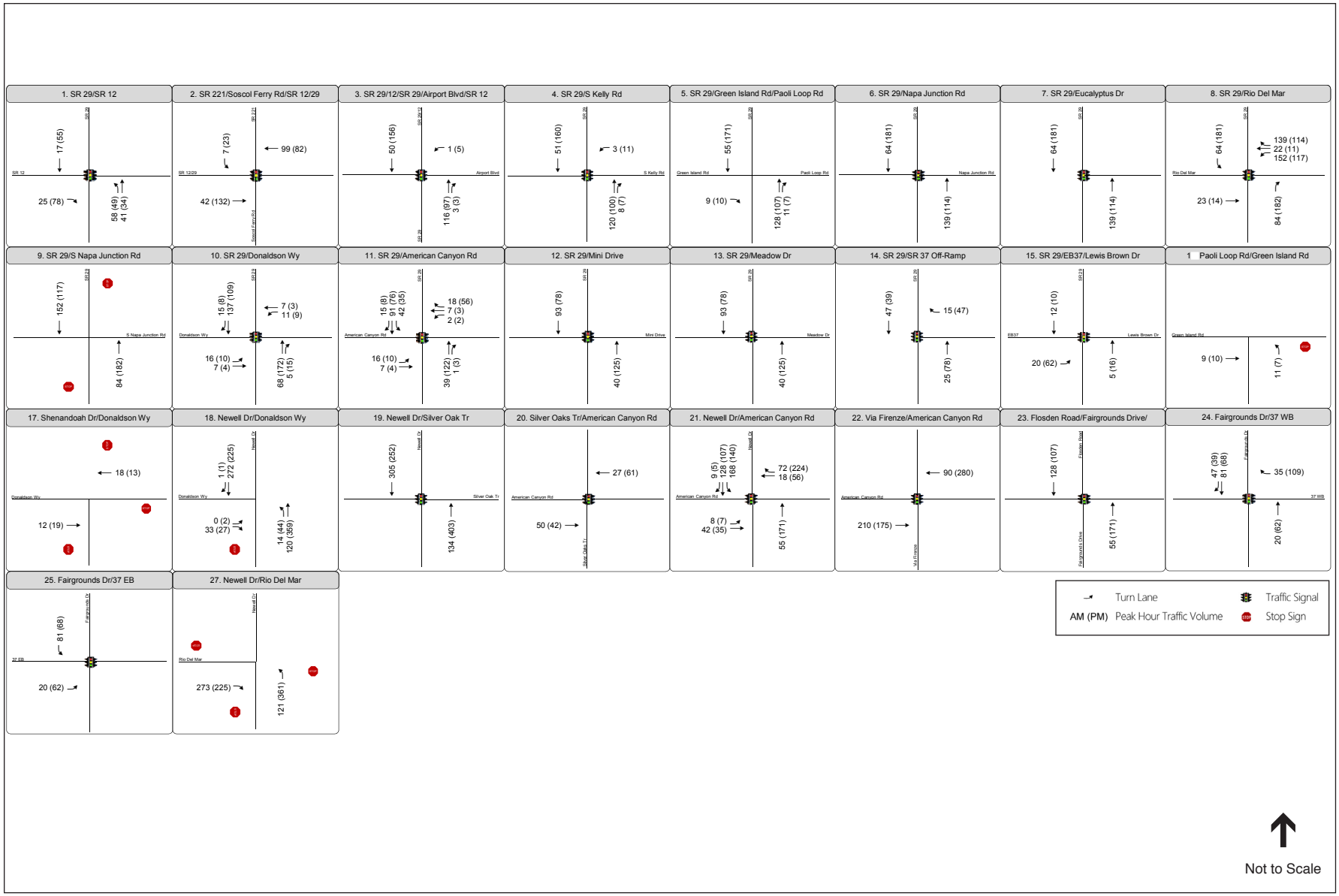


SOURCE: Fehr & Peers, 2016

Watson Ranch Specific Plan . 130779

Figure 4.12-4

Project Trip Distribution

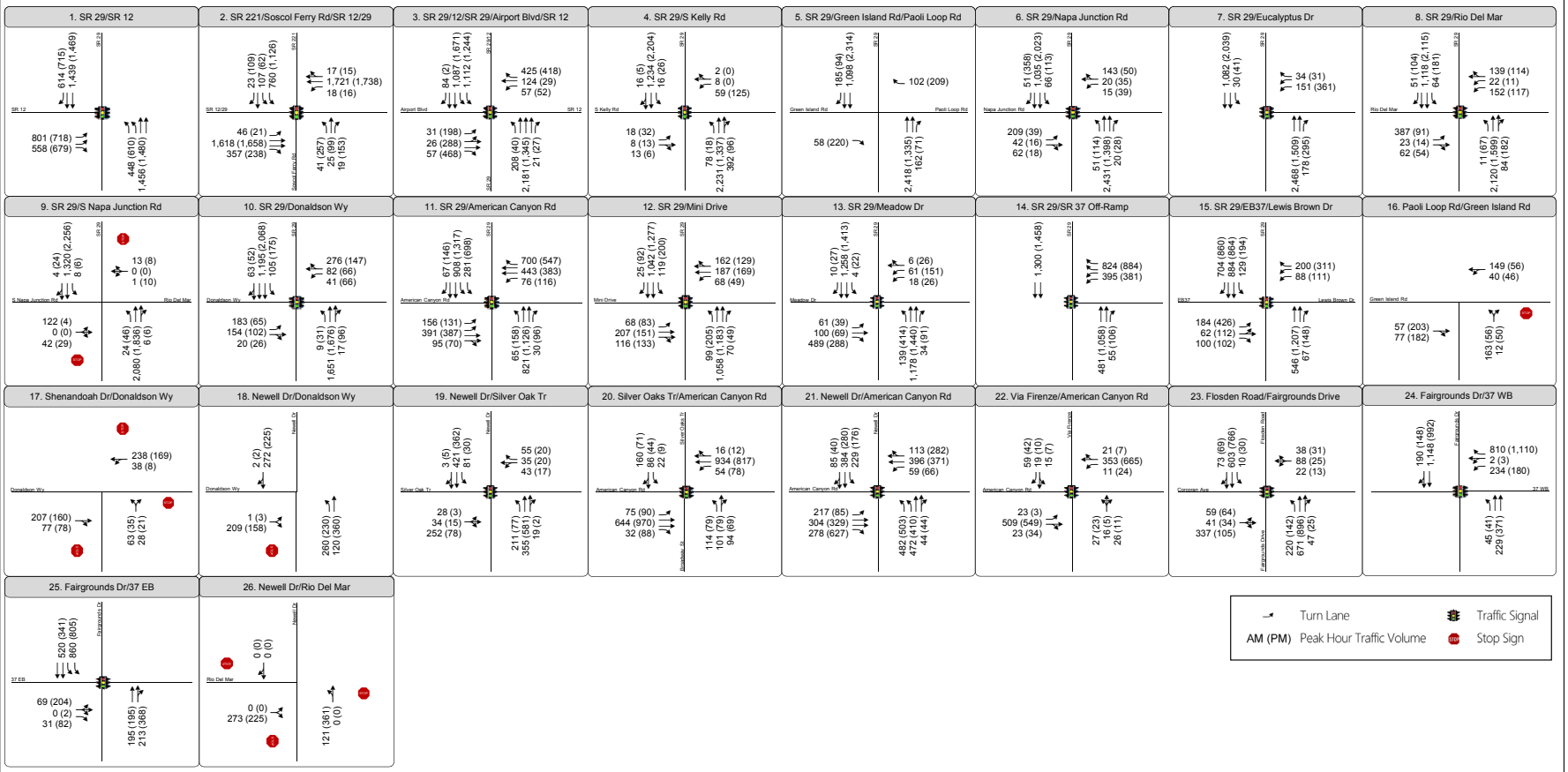


SOURCE: Fehr & Peers, 2016

Watson Ranch Specific Plan . 130779

Figure 4.12-5

Project Trip Assignment



SOURCE: Fehr & Peers, 2016

Figure 4.12-6

Lane Configurations, Traffic Controls, and Peak Hour Traffic Volumes – Existing Plus Project Conditions

The City of American Canyon has no requirement for the number of accessible spaces; however, accessible parking spaces would comply with the requirements of the California Code of Regulations (State Building Code) or Federal law, where such requirements prevail over State law.

As noted earlier, the event space and amphitheater are anticipated to be utilized typically on weekends. The event space is likely to host large weddings or corporate events, which is anticipated to support between two and four events per week. The amphitheater is expected to host at most one event per month. The proposed Project proposes as many as 1,023 parking spaces for these non-residential, non-school uses.

Consistent with the parking requirements of Chapter 19.21 of the City of American Canyon Municipal Code, the proposed Project details the parking supply that would be provided for the following specific uses:

- **Napa Valley Ruins & Gardens:** 1 space for 400 sf of enclosed covered area, and 1 space for 200 sf of outdoor seating area.
- **Hotel:** 1 parking space per room plus 1 space for every 10 rooms; further, the hotel, restaurant, retail, and community center should provide at least 785 vehicle parking spaces.
- **Overflow parking** in parking orchards may be counted towards fulfilling parking requirements.
- **Residential:** Off-street parking requirements shall be in accordance with Chapter 19.21 of the City of American Canyon municipal Code; in the low- and medium-density residential areas, it is assumed that garage and on-street parking would be sufficient for the tenants and their guests.

Uses not listed above are also subject to the parking requirements of Chapter 19.21 of the City of American Canyon Municipal Code. While Table 4.12-8 assumes no shared parking, in order to present a conservative parking demand scenario, the proposed Project permits shared parking within the Napa Valley Ruins & Gardens, allowing for a reduction of minimum parking requirements for individual uses, as allowed the City of American Canyon Shared Parking Ordinance. On-street parking will be counted towards required off-street parking spaces in the mixed-use area, and may include parallel angled or perpendicular parking.

Compliance with Chapter 19.21 of the City of American Canyon Municipal Code and the City of American Canyon Shared Parking Ordinance would ensure that parking demand would not exceed the proposed parking supply on a regular or frequent basis and would also not result in an increased use of permanent existing neighborhood parking for area residents.

Offsite Improvements

As discussed in the *City of American Canyon – Proposed Water Tank Sites Mitigated Negative Declaration* (April 2004), construction of the water tanks would generate approximately 50 additional daily trips to the local roadway network. During operation of the water tanks, one additional trip per day would be generated to account for tank inspection and/or maintenance. These additional construction-related or operational trips would not change the conclusions

reached in the Watson Ranch Specific Plan TIS or this EIR. Parking for maintenance personnel would be provided onsite at both sites. Neither tank site would be a hazard to pedestrians or bicyclists, nor would they impact public transit operations due to their isolated locations.

Impact Analysis

Existing Plus Project Traffic Conditions

Impact 4.12-1: The proposed Project would contribute to unacceptable traffic operations under Existing Plus Project Conditions, even with implementation of identified mitigation measures. Impacts would be significant and unavoidable. (Significant and Unavoidable)

This discussion presents the impacts of the proposed Project on the surrounding transportation system under Existing Plus Project Conditions. Existing Plus Project Conditions are defined as Existing Conditions with completion of the proposed Project. Impacts to the roadway system under this scenario are identified by comparing the LOS results under Existing Plus Project Conditions (with traffic generated by the proposed Project added to existing volumes) to those under Existing Conditions. In order to determine impacts to the roadway system, analysis is completed as though the entire Project is built out at one time. However, this Project would be built out in several phases over a period of many years. As a result, the situation shown in the Existing Plus Project Conditions analysis would not be anticipated to actually occur for several years after the initial construction of the proposed Project.

As part of the Project, Rio Del Mar would be extended from its current terminus at SR 29 to the western boundary of the Project site with a new grade-separated railroad crossing underneath the existing Union Pacific Railroad (UPRR) line. Intersection improvements would be constructed at the Rio Del Mar and SR 29 intersection to allow for full access to the extension from all directions of travel. The Project would also construct a third lane in each direction on SR 29 between Rio Del Mar and Eucalyptus Drive Traffic signals would be modified to accompany these physical improvements at both intersections.

Table 4.12-9 provides a summary of LOS results for Existing Plus Project Conditions, compared with Existing Conditions results, which were originally presented in Table 4.12-5. Under Existing Plus Project Conditions without mitigation, 20 of 26 study intersections operate at acceptable LOS (based on the criteria set forth by the respective jurisdictions) during the AM peak hour and 19 of 26 operate at acceptable LOS during the PM peak hour.

As mentioned previously, intersections along SR 29 between Napa Junction Road (#6) and American Canyon Road (#11) were modeled with VISSIM. In the existing conditions models, each intersection served 99 to 101 percent of the counted demand in the AM peak hour and 97 to 99 percent of vehicles counted at the intersections in the PM peak hour. With the Project, the existing roadway network serves 97 to 99 percent of the demand in the AM peak hour and 94 to 95 percent of the demand in PM peak hour. In other words, traffic demand on the SR 29 corridor is at capacity in the AM peak hour and approximately five to six percent over capacity in the PM peak hour.

TABLE 4.12-9
EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE

#	Intersection	Peak Hour[1]	Existing Conditions		Existing Plus Project	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1	SR 29 / SR 12 / SR 121	AM	**39.4**	**D**	**43.1**	**D**
		PM	**37.9**	**D**	**43.9**	**D**
2	SR 29 / SR 12 / SR 221 / Soscol Ferry Road	AM	**58.9**	**E**	**73.3**	**E**
		PM	**>80**	**F**	**>80**	**F**
3	SR 29 / SR 12 / Airport Boulevard	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
4	SR 29 / South Kelly Road	AM	31.0	C	**43.9**	**D**
		PM	**n/a**[4]	**F**[4]	**n/a**[4]	**F**[4]
5	SR 29 / Green Island Road / Paoli Loop Road	AM	-	-	-	-
		PM	-	-	-	-
6	SR 29 / Napa Junction Road	AM	28.4	C	**52.6**	**D**
		PM	**>80**	**F**	**>80**	**F**
7	SR 29 / Eucalyptus Drive	AM	6.9	A	11.9	B
		PM	19.1	B	**>80**	**F**
8	SR 29 / Rio Del Mar	AM	18.6	B	39.4	D
		PM	17.8	B	30.2	C
9	SR 29 / South Napa Junction Road / Poco Way	AM	8.6 (22.8)	A (C)	2.4 (17.1)	A (C)
		PM	2.9 (13.2)	A (B)	5.0 (**>50**)	A (**F**)
10	SR 29 / Donaldson Way	AM	31.1	C	32.5	C
		PM	40.0	D	40.7	D
11	SR 29 / American Canyon Road	AM	33.4	C	41.1	D
		PM	51.5	D	55.7	E
12	SR 29 / Mini Drive	AM	24.3	C	24.7	C
		PM	27.0	C	27.8	C
13	SR 29 / Meadows Drive	AM	23.8	C	24.7	C
		PM	38.1	D	**43.1**	**D**
14	SR 29 / SR 37 Westbound On-Ramp	AM	12.0	B	12.4	B
		PM	16.4	B	17.7	B
15	SR 29 / SR 37 Eastbound Ramps / Lewis Brown Drive	AM	16.7	B	17.0	B
		PM	31.9	C	34.1	C
16	Paoli Loop Road / Green Island Road	AM	5.1 (12.9)	A (B)	5.4 (13.3)	A (B)
		PM	3.1 (13.6)	A (B)	3.3 (14.2)	A (B)
17	Shenandoah Drive / Donaldson Way	AM	10.8	B	11.3	B
		PM	8.4	A	8.6	A
18	Newell Drive / Donaldson Way	AM	8.3 (9.2)	A (A)	5.8 (12.9)	A (B)
		PM	8.0 (8.8)	A (A)	3.8 (11.3)	A (B)
19	Newell Drive / Silver Oak Trail	AM	20.2	C	25.9	C
		PM	11.8	B	10.0	A
20	Broadway Street / Silver Oak Trail / American Canyon Road	AM	38.4	D	38.3	D
		PM	38.3	D	41.3	D
21	Newell Drive / American Canyon Road	AM	41.6	D	49.1	D
		PM	46.7	D	45.3	D
22	Via Firenze / American Canyon Road	AM	15.0	B	14.9	B
		PM	12.1	B	12.3	B
23	Fairgrounds Drive / Flosden Road / Corcoran Avenue	AM	24.0	C	26.1	C
		PM	13.9	B	14.6	B
24	Fairgrounds Drive / SR 37 Westbound Ramps	AM	**36.5**	**D**	**60.0**	**E**
		PM	**38.5**	**D**	**68.6**	**E**
25	Fairgrounds Drive / SR 37 Eastbound Ramps	AM	13.4	B	14.0	B
		PM	14.9	B	16.2	B
26	Newell Drive / Rio Del Mar	AM	n/a	n/a	8.4	A
		PM			11.2	B

NOTES:
1 AM = morning peak hour, PM = evening peak hour
2 For signalized intersections and all-way stop-controlled intersections, average intersection delay and LOS based on 2000 HCM method is shown. Average control delay and (total control delay for the worst movement) are presented for side-street stop controlled intersections
3 LOS = Level of Service. LOS calculations conducted using the method described in the 2000 HCM.
4 As a result of downstream queues, the intersection has been designated LOS F in the PM peak hour.

Bold text indicates intersection operates at a deficient Level of Service. **Bold and red** indicates a significant impact.

SOURCE: Fehr & Peers, 2016.

The VISSIM models show that peak hour speeds through the corridor are much less than uncongested off-peak speeds in both peak hours. In the AM peak hour, the average travel speed is 27 mph in the northbound direction and 31 mph in the southbound direction. In the PM peak hour, the average travel speed is 33 mph in the northbound direction and 17 mph in the southbound direction. This is approximately a 10 to 20 percent reduction in travel speeds in the peak direction of travel during the peak hours from the No Project condition. Travel speeds would remain the same or would increase by approximately ten percent in the non-peak direction of travel due to the increased through-capacity on SR 29 between Eucalyptus Drive and Rio Del Mar.

Because the SR 29 / Napa Junction Road (#6) intersection is currently at capacity in the southbound direction during the PM peak hour, additional southbound volume at this location would either be unserved or would replace existing served vehicles in this section of roadway. The SR 29 southbound queue from Napa Junction Road would continue to extend north of the intersection during the PM peak period.

Based on impact criteria listed in Section 4.12.5, *Thresholds of Significance*, under Existing Plus Project Conditions without mitigation, significant traffic impacts would occur at the following intersections:

- (#2) SR 29 / SR 12 / SR 221 / Soscol Ferry Road (LOS E during the AM peak hour, LOS F during the PM peak hour)
- (#3) SR 29 / SR 12 / Airport Boulevard (LOS F during both the AM and PM peak hours)
- (#4) SR 29 / South Kelly Road (LOS D during the AM peak hour, LOS F during the PM peak hour)
- (#6) SR 29 / Napa Junction Road (LOS D during the AM peak hour, LOS F during the PM peak hour)
- (#7) SR 29 / Eucalyptus Drive (LOS F during the PM peak hour)
- (#13) SR 29 / Meadows Drive (LOS D during the PM peak hour)
- (#24) Fairgrounds Drive / SR 37 Westbound Ramps (LOS E during both the AM and PM peak hours)

(#2) SR 29 / SR 12 / SR 221 / Soscol Ferry Road

The addition of Project traffic under Existing Plus Project Conditions is expected to increase delay at the intersection by more than five seconds for an intersection operating at LOS E without the Project during the AM peak hour and operating at LOS F without the Project during the PM peak hour. This is a significant impact.

In order to mitigate impacts at this location, a flyover ramp could be constructed for traffic traveling from southbound SR 221 to southbound SR 29 / SR 12. This improvement has been contemplated previously by Napa County and Caltrans, and is likely to be needed with or without development of the Project. The SR 29 / SR 221 Soscol Junction Improvement Project Draft Environmental Impact Report/Environmental Assessment (Draft EIR/EA) was released by

Caltrans in March 2015 and examines six alternatives for these proposed improvements. Removing the southbound left-turning traffic from the signalized portion of this intersection could improve this intersection to acceptable LOS B or better in the AM and PM peak hours.

However, the intersection of SR 29 / SR 12 / SR 221 / Soscol Ferry Road is outside the American Canyon city limits and under the jurisdiction of Caltrans. As such, the City has no jurisdiction to implement these improvements and would be relying on the cooperation of a third-party agency, which is not assured at the time of this writing. Moreover, planning on the Soscol flyover is in the initial stages and identification of funding sources (e.g., a fair-share fee payment program) has not yet occurred. Per the methodology for calculating fair share contribution for mitigation measures described in the Caltrans *Guide for the Preparation of Traffic Impact Studies,* the Project would be responsible for approximately six percent of the cost of the full improvements. In order to collect this fee, a formal agreement will need to be developed between a number of parties (potentially including Caltrans, NVTA, City of American Canyon, City of Napa, and Napa County), subject to approval by the City Attorney of American Canyon. The agreement will identify the funding sources for the flyover ramp and the mechanism for collecting and transferring the funds once it is ready to be constructed. Since there is uncertainty that these improvements would be approved or implemented as previously described, this impact would remain significant and unavoidable.

Mitigation Measure 4.12-1a: ***SR 29 / SR 12 / SR 221 / Soscol Ferry Road Flyover Ramp.*** Prior to issuance of the first building permit for each phase in the proposed Project, or recordation of the first final map for construction of each phase, whichever comes first, the Project Applicant shall pay a fair share contribution of the estimated construction costs for improvements at the SR 29 / SR 12 / SR 221 / Soscol Ferry Road interchange. The fair share shall be calculated based on the California Department of Transportation (Caltrans) methodology at the time payment is required, subject to an agreement approved by the City Attorney of American Canyon and to occur in phases based on the projected traffic of the proposed Project, and the estimated cost of the improvement construction at that time. The SR 29 / SR 12 / SR 221 / Soscol Ferry Road Flyover Ramp is currently estimated at $40 million per the Draft Environmental Impact Report (EIR) (Caltrans, March 2015).

The City of American Canyon, as lead agency, does not have jurisdictional authority to approve or implement the SR 29 / SR 221 Soscol Junction Improvement Project, which would need to be approved and implemented by the Caltrans. Although the Project Applicant would be required to pay a fair share fee to the City for the SR 29 / SR 221 Soscol Junction Improvement Project, the implementation of this Caltrans project is uncertain because it has not been approved or fully funded. Consequently, the impact would remain significant and unavoidable. In order to collect this fee, Caltrans, the Napa Valley Transportation Authority (NVTA), and the City of American Canyon would need to develop formal agreements regarding the funding sources for the SR 29 / SR 221 Soscol Junction Improvement Project and the mechanism for collecting and transferring the funds, again subject to the approval of the City Attorney of American Canyon, for this mitigation measure to be feasible.

Significance after Mitigation: Significant and Unavoidable.

(#3) SR 29 / SR 12 / Airport Boulevard

The addition of Project traffic under Existing Plus Project Conditions is expected to increase delay at the intersection by more than five seconds for an intersection operating at LOS F without the Project during the AM peak hour and would contribute more than 50 trips to an intersection operating at LOS F without the Project during the PM peak hour. This is a significant impact.

Construction of a grade-separated interchange as proposed in the Napa County General Plan would improve operations at this intersection. This improvement has been contemplated previously by Napa County and Caltrans, and is likely to be needed with or without development of the Project. However, the intersection of SR 29 / SR 12 / Airport Boulevard is outside the American Canyon city limits and under the jurisdiction of Caltrans. As such, the City would be relying on the cooperation of a third-party agency to implement this improvement, which is not assured at the time of this writing. Thus, there is uncertainty that this improvement would be implemented as previously described, and, therefore, this impact would remain significant and unavoidable. Per the methodology for calculating fair share contribution for mitigation measures described in the Caltrans *Guide for the Preparation of Traffic Impact Studies,* the Project is responsible for approximately four percent of the cost of the full improvements.

> **Mitigation Measure 4.12-1b: *SR 29 / SR 12 / Airport Boulevard Interchange*.** Prior to issuance of the first building permit for each phase in the proposed Project, or recordation of the first final map for construction of each phase, whichever comes first, the Project Applicant shall pay a fair share contribution of the estimated construction costs for the SR 29 / SR 12 / Airport Boulevard Interchange Project. The fair share shall be calculated based on the California Department of Transportation (Caltrans) methodology at the time payment is required, subject to an agreement approved by the City Attorney of American Canyon and to occur in phases based on the projected traffic of the proposed Project and the estimated cost of the improvement construction at that time.
>
> The grade-separated SR 29 / SR 12 / Airport Boulevard Interchange Project, planned by the Caltrans, is currently estimated at $73 million as per the Napa Valley Transportation Authority (NVTA) (then the Napa County Transportation and Planning Agency [NCTPA]) *SR 29 Gateway Corridor Improvement Plan* (dated February 2014).
>
> The City of American Canyon, as lead agency, does not have jurisdictional authority to approve or implement the SR 29 / SR 12 / Airport Boulevard Interchange Project, which would need to be approved and implemented by Caltrans. Although the Project Applicant would be required to pay a fair share fee to the City for the SR 29 / SR 12 / Airport Boulevard Interchange Project, the implementation of this Caltrans project is uncertain because it has not been approved or fully funded. Consequently, the impact would remain significant and unavoidable. In order to collect this fee, Caltrans, NVTA, and the City of American Canyon would need to develop formal agreements regarding the funding sources for the SR 29 / SR 12 / Airport Boulevard Interchange Project and the mechanism for collecting and transferring the funds, again subject to the approval of the City Attorney of American Canyon, for this mitigation measure to be feasible.
>
> **Significance after Mitigation:** Significant and Unavoidable.

(#4) SR 29 / South Kelly Road

The addition of Project traffic under Existing Plus Project Conditions is expected to cause this intersection to deteriorate from LOS C to LOS D in the AM peak hour and would contribute more than 50 trips to an intersection operating at LOS F without the Project during the PM peak hour. This is a significant impact.

Other nearby development projects have also identified this intersection as having a significant impact and have proposed the following mitigation measure at the intersection of SR 29 at South Kelly Road:

- Northbound approach: 3 through lanes, 2 left-turn lanes, 1 right-turn lane
- Southbound approach: 3 through lanes, 1 left-turn lane, 1 right-turn lane
- Eastbound approach: 1 through lane, 2 left-turn lanes, 1 right-turn lane
- Westbound approach: 1 through lane, 2 left-turn lanes, 1 right-turn lane

Implementation of this mitigation measure would be done in conjunction with construction that has already been planned and approved. Additional construction activities associated with this improvement may incrementally increase construction traffic, noise, and air emissions in the area, but would not change the analysis, conclusions, or mitigation measures provided in the TIS. Construction activities associated with this mitigation measure would be required to comply with all applicable local and state laws and regulations, such as dust suppression, limitations on hours of construction, stormwater runoff controls, and other similar requirements designed to reduce or avoid environmental impacts.

As mentioned, other nearby development projects have also identified this intersection as having a significant impact and have proposed to pay 100 percent of the construction costs to implement the mitigation measure. To the extent this improvement represents oversizing that is over and above what would be necessary to mitigate the impacts of those other projects, the other Applicant will be eligible for reimbursement for costs above its fair share from other nearby private developments that would also contribute traffic to this intersection. The WRSP Project Applicant will pay their fair share for construction of the planned and approved intersection improvements noted above.

Because the South Kelly Road intersection at SR 29 is impacted in the PM peak hour as a result of downstream queues, the impact at this intersection would remain significant and unavoidable with implementation of this mitigation measure without changes to SR 29 through the City of American Canyon (between Napa Junction Road and American Canyon Road).

> **Mitigation Measure 4.12-1c:** ***SR 29 / South Kelly Road Intersection Improvements.*** Prior to issuance of the first building permit for each phase in the proposed Project, or recordation of the first final map for construction of each phase, whichever comes first, the Project Applicant shall pay a fair share contribution of the estimated construction costs for the proposed intersection improvements at SR 29 / South Kelly Road. The fair share shall be calculated at the time payment is required, subject to an agreement approved by the City Attorney of American Canyon and to occur in phases based on the

projected traffic of the proposed Project and the estimated cost of the construction at that time. The proposed SR 29 / South Kelly Road improvements are estimated to cost $4.1 million.

Queuing from the SR 29 corridor through the City creates LOS F conditions during the PM peak period at this intersection. With improvements described in the State Route 29 Gateway Corridor Improvement Plan, the intersections through the City would operate acceptably and vehicle queues would not spill back to this location. However, those improvements have not been approved by Caltrans and are not funded and cannot be assumed at this time. The mitigation measure proposed above would accommodate future traffic buildout volumes and would help to complete the SR 29 corridor when the remainder of the State Route 29 Corridor Improvement Plan improvements are constructed.

Significance after Mitigation: Significant and Unavoidable.

(#6) SR 29 / Napa Junction Road

The addition of Project traffic under Existing Plus Project Conditions would contribute more than 50 trips to an intersection operating at LOS F without the Project during the PM peak hour. This is a significant impact.

The Napa County General Plan calls for widening of SR 29 from the SR 221 (Napa-Vallejo Highway) interchange to the Napa/Solano County line. In order to mitigate the Project's significant impact based on the criteria described earlier in this report, an additional through lane on SR 29 in the northbound and southbound directions should be constructed at this intersection, as is currently proposed. This improvement has been contemplated previously by Napa County and Caltrans, and would be needed with or without development of the Project. As mentioned, funding for a portion of the cost of this improvement is included in the City's Transportation Impact Fee Program.

As a portion of the SR 29 segment proposed to be widened is outside the American Canyon city limits and the entire roadway is under the jurisdiction of Caltrans, the City would rely on the cooperation of a third-party agency to implement these improvements, which is not assured at the time of this writing. Moreover, planning for widening is in the initial stages and identification of funding sources (e.g., a fair-share fee payment program) has not yet occurred. Thus, there is uncertainty that these improvements would be approved or implemented as previously described, and, therefore, this impact would remain significant and unavoidable.

As mentioned, the SR 29 corridor through American Canyon is currently over capacity during the PM peak hour. This impact would not be mitigated until all improvements, including expanding SR 29 to six lanes, are constructed. Should the planned roadway network changes stated in the State Route 29 Gateway Corridor Improvement Plan be constructed, the intersections through the City would operate acceptably in the Existing Plus Project Condition.

Significance after Mitigation: Significant and Unavoidable.

(#7) SR-29 / Eucalyptus Drive

The addition of project traffic under Existing Plus Project Conditions is expected to cause this intersection to deteriorate from LOS B to LOS F conditions during the PM peak hour. This is a significant impact.

The Napa County General Plan calls for widening of SR 29 from the SR 221 (Napa-Vallejo Highway) interchange to the Napa/Solano County line. In order to mitigate the project's significant impact based on the criteria described earlier in this report, the additional through lane on SR 29 in the northbound and southbound directions should be constructed at this intersection, as is currently proposed. This improvement has been contemplated previously by the County and Caltrans, and will be needed with or without development of the project. As mentioned, funding for a portion of the cost of this improvement is included in the City's Transportation Impact Fee Program.

The City of American Canyon has plans to install an adaptive signal system along SR 29 that will allow for coordination among the signals between Napa Junction Road and American Canyon Road. The signal system upgrade would add near-term capacity through the corridor and reduce delay along the corridor as a bridge to future widening of SR 29, but it would not fully mitigate the impacts on its own.

> **Mitigation Measure 4.12-1d:** ***SR 29 Adaptive Signal System.*** Prior to issuance of the first building permit for each phase of the proposed Project, or recordation of the first final map for construction of each phase, whichever comes first, the Project Applicant shall fund, subject to applicable reimbursement or credit from future development, the installation of an adaptive signal system along SR 29 that will coordinate the signals between Napa Junction Road and American Canyon Road. The Applicant and the City shall enter into a reimbursement agreement or other agreement for fee credit prior to payment of this fee.
>
> **Significance after Mitigation:** Significant and unavoidable.

(#13) SR 29 / Meadows Drive

The addition of Project traffic under Existing Plus Project Conditions is expected to increase the volume-to-capacity ratio at the intersection by more than 0.02 for an intersection operating at LOS D without the Project during the PM peak hour. This is a significant impact.

The construction of a third through lane in both the northbound and southbound approaches would improve this intersection to LOS D or better in the AM and PM peak hours. The widening improvement is not currently planned in the Solano County General Plan, the Vallejo General Plan, or the Caltrans State Transportation Improvement Program, nor is it included for widening program proposed in the SR 29 Gateway Corridor Improvement Plan. This intersection is also outside the American Canyon city limits and under the jurisdiction of Caltrans. Because this improvement is not contemplated in local, regional, or state plans, its implementation is speculative and would depend on initiation, planning, approval, and funding by other agencies. The City of American Canyon does not have jurisdictional authority to approve or implement this

improvement. Consequently, this improvement is not feasible, and this impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

(#24) Fairgrounds Drive / SR 37 Westbound Ramps

The addition of Project traffic under Existing Plus Project Conditions is expected to cause this intersection to deteriorate from LOS D to LOS E in the AM and PM peak hours. This is a significant impact. The construction of additional lane capacity would be needed to improve this intersection to an acceptable LOS in the AM and PM peak hours. This additional lane capacity is not currently planned in the Solano County General Plan, the Vallejo General Plan, or the Caltrans State Transportation Improvement Program. This intersection is also outside the American Canyon city limits and under the jurisdiction of the City of Vallejo. Because this improvement is not contemplated in local, regional, or state plans, its implementation is speculative and would depend on initiation, planning, approval, and funding by other agencies. The City of American Canyon does not have the jurisdictional authority to approve or implement this improvement. Consequently, the improvement is not feasible, and this impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Summary of Impacts

Six intersections would be significantly impacted after addition of project-related trips under the Existing Plus Project scenario. Three mitigation measures have been identified that would fully or partially alleviate impacts at some impacted intersections: **Mitigation Measure 4.12-1a**, **4.12-1b**, **4.12-1c,** and **4.12-1d**. The discussion above identifies improvements that would mitigate impacts at some identified intersections. Implementation of these improvements would be outside the jurisdiction of the City and no approved plans exist for these improvements. Consequently, uncertainty exists about when or whether contemplated improvements would be implemented and, therefore, the impact remains significant and unavoidable. Other improvements have been determined to be infeasible.

Existing Plus Background Plus Project Traffic Conditions

Impact 4.12-2: The proposed Project would contribute to unacceptable traffic operations under Existing Plus Background Plus Project Conditions, even with implementation of the identified mitigation measures. Impacts would be significant and unavoidable. (Significant and Unavoidable)

This discussion presents results of the LOS calculations under Existing Plus Background Conditions with and without the Project. Existing Plus Background Conditions are defined as conditions prior to completion and occupancy of the proposed development. Traffic volumes for Existing Plus Background Conditions comprise existing volumes plus traffic generated by

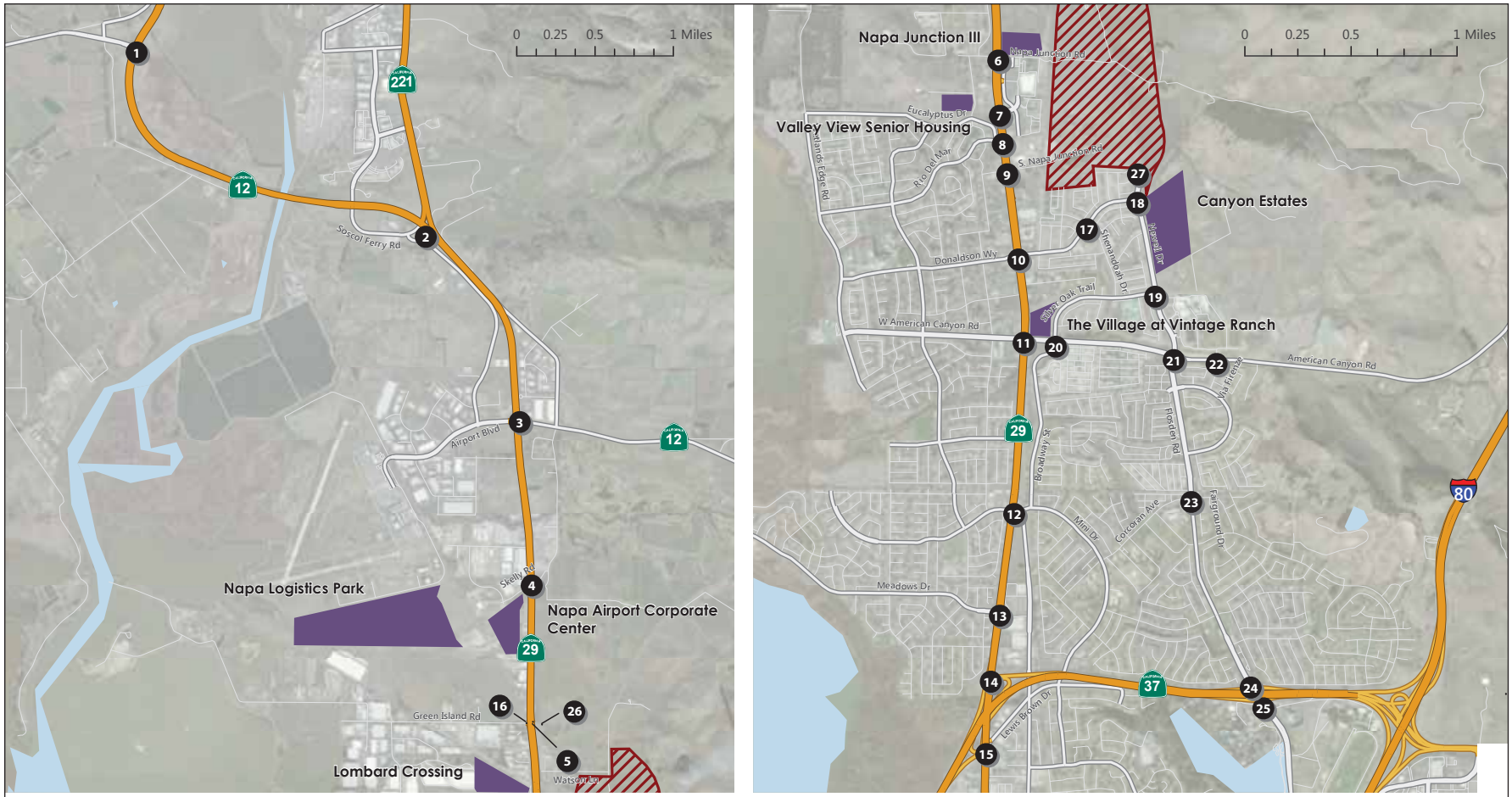
approved but not yet constructed and occupied developments in the area. Existing Plus Background Plus Project Conditions are defined as Existing Plus Background Conditions plus net new traffic generated by the proposed Project. Projections of added traffic for Existing Plus Background Conditions were based on approved and not occupied development projects in the vicinity of the site. **Table 4.12-10** includes a list of approved projects for the City of American Canyon. The locations of these projects are shown in **Figure 4.12-7**.

TABLE 4.12-10
BACKGROUND DEVELOPMENT PROJECTS

Project	Land Use	Amount	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Canyon Estates	SF Residential	38 DU	390	8	21	29	24	14	38
Napa Airport Corporate Center, Phase I	Warehouse	115,737 sf	559	70	19	89	16	49	65
Napa Airport Corporate Center, Phase II	Warehouse, Gas Station	551,769 sf 6,688 sf	4,909	286	158	444	157	241	398
Napa Junction III	MF Residential, Retail	148 DU 7,011 sf	3,047	102	142	244	174	125	299
Napa Logistics Park Phase 1	Warehouse	646,000 sf	2,453	182	48	230	49	148	197
Napa Logistics Park Phase 2	Warehouse/ Manufacturing, Office	2,171,000 sf 100,000 sf	9,263	420	90	510	104	375	479
Village at Vintage Ranch	MF Residential	164 DU	1,088	16	67	83	66	36	102
Valley View Senior Housing	Senior Housing	70 DU	258	5	11	16	12	7	19
Lombard Crossing	Warehouse	287,200 sf	1,022	68	18	86	23	69	92
		Total	**22,989**	**1,157**	**574**	**1,731**	**625**	**1,064**	**1,689**

SOURCE: City of American Canyon, 2016; Trip Generation Manual (9th Edition), ITE, 2012.

The directions of approach and departure of Background trips were based on project locations and relative locations of complementary land uses, existing travel patterns in the area, and patterns used in project TIAs when available. Trips were then assigned to the roadway system based on the directions of approach and departure discussed in Section 12.4, *Methodology*. The trips for each of the Background projects were added to the existing volumes to represent Existing Plus Background Conditions, as shown on **Figure 4.12-8**. The existing roadway network was used for the Existing Plus Background Conditions analysis. As discussed previously, no adjustments were made to existing traffic to reflect the new east-west Rio Del Mar connection across SR 29 due to the lack of sufficient detail in the existing travel demand model to accurately represent changed travel patterns (analysis completed for cumulative conditions).Net new trips from the Project presented in Section 4.12.4, *Methodology*, were added to the Existing Plus Background Conditions to develop traffic volumes for Existing Plus Background Plus Project Conditions. The resulting volumes are shown on **Figure 4.12-9**.

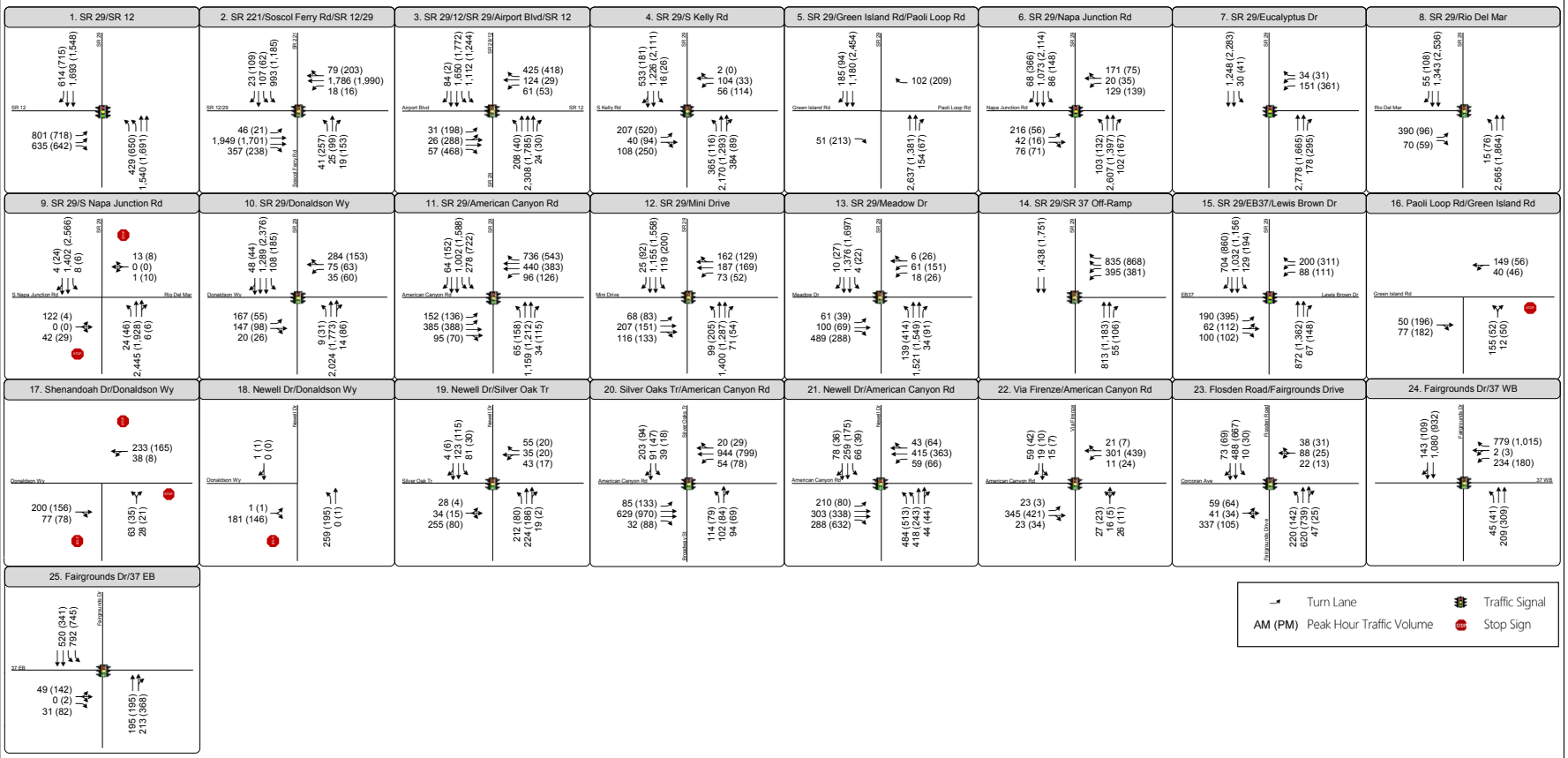


SOURCE: Fehr & Peers, 2016

Watson Ranch Specific Plan . 130779

Figure 4.12-7

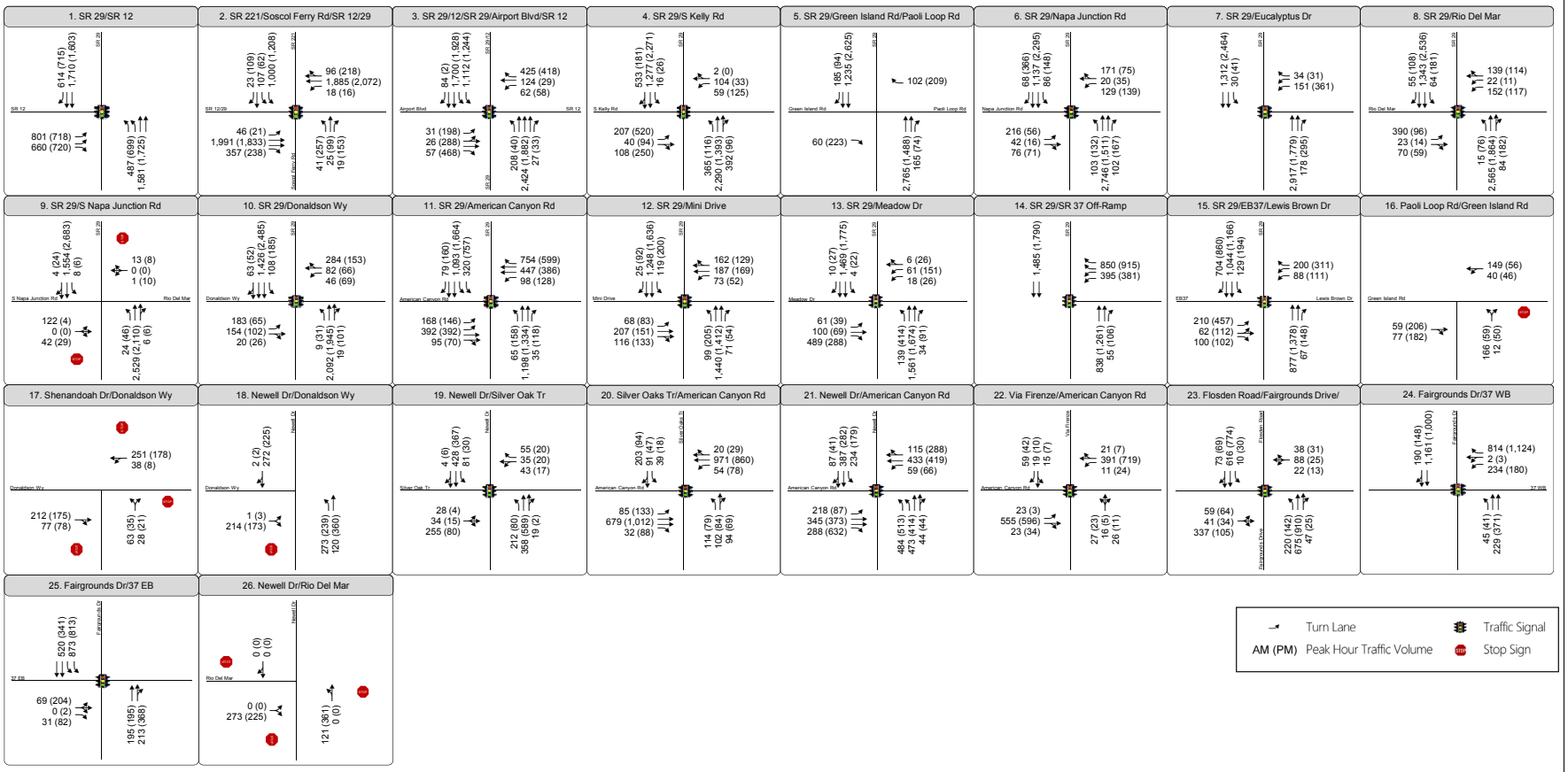
Background (Approved) Projects for the Traffic Analysis



SOURCE: Fehr & Peers, 2016

Figure 4.12-8

Lane Configurations, Traffic Control, and Peak Hour Traffic Volumes – Existing Plus Background Conditions



SOURCE: Fehr & Peers, 2016

Figure 4.12-9

Lane Configurations, Traffic Control, and Peak Hour Traffic Volumes – Existing Plus Background Plus Project Conditions

Table 4.12-11 presents the level of service calculation results for the study intersections under Existing Plus Background Conditions and Existing Plus Background Plus Project Conditions.

As mentioned previously, intersections along SR 29 between Napa Junction Road (#6) and American Canyon Road (#11) were modeled with VISSIM. During the AM peak hour without the Project, the intersections served 90 to 94 percent of the demand in the AM peak hour. With the Project, the existing roadway network serves 87 to 93 percent of the demand in the AM peak hour. Demand for the SR 29 corridor is approximately six to ten percent over capacity in the AM peak hour without the Project and would be seven to 13 percent over capacity with the Project. The decrease in the ability to serve the additional traffic is reflected in the LOS F at these locations in Table 4.12-11. During the PM peak hour, the corridor would serve 15 to 20 percent less of the demand with the Project and would be 13 to 16 percent over capacity.

The VISSIM models show that peak hour speeds through the corridor are much less than uncongested off-peak speeds in both peak hours. In the AM peak hour, the average travel speed is 10 mph in the northbound direction and 25 mph in the southbound direction. In the PM peak hour, the average travel speed is 24 mph in the northbound direction and 15 mph in the southbound direction. This is approximately a 14 to 17 percent decrease in travel speeds in both directions during the AM peak hour and an 11 to 14 percent decrease in travel speeds in both directions during the PM peak hour from the No Project condition.

The Project adds only northbound and southbound through traffic at most of these intersections. Delay does not consistently increase in the VISSIM models, because at some locations the additional vehicles cannot get to the intersections. With a congested corridor that is over capacity, and without the ability to serve any Project traffic, the addition of Project traffic adds to the delays and long vehicle queues in some locations. As a result, vehicle traffic impacts at these intersections are all considered to be significant.

With mitigation measures from the City that can reasonably be expected to be constructed by the buildout year (including those mentioned in **Mitigation Measure 4.12-1a** and **Mitigation Measure 4.12-1b** and expansion of SR 29 to six lanes through the City), the SR 29 corridor through the City would be able to serve 99 percent of the projected future vehicle demand. The improvements at SR 29 / SR 12 / Airport Road and SR 29 / SR 221 / Soscol Ferry Road would also eliminate conflicts along the highway and/or significantly increase capacity at intersections. With implementation of **Mitigation Measure 4.12-1c**, the intersection of South Kelly Road and SR 29 would operate at LOS C during both peak hours (though without the SR 29 corridor widening, this section of SR 29 through the City would still be over capacity and spill back to South Kelly Road). However, these mitigation measures would apply to locations beyond the jurisdiction of the City, relying upon cooperation of a third-party agency for implementation, which is not assured at the time of this writing. Therefore, these mitigation measures have not been assumed in the following analysis.

TABLE 4.12-11
EXISTING PLUS BACKGROUND PLUS PROJECT INTERSECTION LEVELS OF SERVICE

#	Intersection	Peak Hour[1]	Existing Plus Background		Existing Plus Background Plus Project	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1	SR 29 / SR 12 / SR 121	AM	**67.5**	**E**	**71.7**	**E**
		PM	**52.6**	**D**	**59.9**	**E**
2	SR 29 / SR 12 / SR 221 / Soscol Ferry Road	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
3	SR 29 / SR 12 / Airport Boulevard	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
4	SR 29 / South Kelly Road	AM	**71.4**	**E**	**>80**	**F**
		PM	**n/a[4]**	**F[4]**	**n/a[4]**	**F[4]**
5	SR 29 / Green Island Road / Paoli Loop Road	AM	-	-	-	-
		PM	-	-	-	-
6	SR 29 / Napa Junction Road	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
7	SR 29 / Eucalyptus Drive	AM	29.1	C	**48.7**	**D**
		PM	40.0	D	**>80**	**F**
8	SR 29 / Rio Del Mar	AM	33.9	C	**64.6**	**E**
		PM	29.5	C	**37.3**	**D**
9	SR 29 / South Napa Junction Road / Poco Way	AM	**>50** (**>50**)	C (**F**)	**>50 (>50)**	**F (F)**
		PM	17.7 (**>50**)	B (**F**)	**9.1 (>50)**	**A (F)**
10	SR 29 / Donaldson Way	AM	**>80**	**F**	**>80**	**F**
		PM	**56.0**	**E**	**38.6**	**D**
11	SR 29 / American Canyon Road	AM	**>80**	**F**	**>80**	**F**
		PM	76.2	E	**>80**	**F**
12	SR 29 / Mini Drive	AM	28.2	C	29.1	C
		PM	31.0	C	33.9	C
13	SR 29 / Meadows Drive	AM	26.3	C	27.9	C
		PM	**75.2**	**E**	**>80**	**F**
14	SR 29 / SR 37 Westbound On-Ramp	AM	15.9	B	16.7	B
		PM	20.6	C	21.9	C
15	SR 29 / SR 37 Eastbound Ramps / Lewis Brown Drive	AM	19.7	B	20.1	C
		PM	**37.8**	**D**	**40.7**	**D**
16	Paoli Loop Road / Green Island Road	AM	5.2 (13.0)	A (B)	5.4 (13.4)	A (B)
		PM	3.2 (13.8)	A (B)	3.3 (14.4)	A (B)
17	Shenandoah Drive / Donaldson Way	AM	11.1	B	11.5	B
		PM	8.5	A	8.7	A
18	Newell Drive / Donaldson Way	AM	8.3 (9.2)	A (A)	6.0 (13.1)	A (B)
		PM	8.1 (8.9)	A (A)	4.0 (11.5)	A (B)
19	Newell Drive / Silver Oak Trail	AM	20.5	C	26.3	C
		PM	11.8	B	10.2	B
20	Broadway Street / Silver Oak Trail / American Canyon Road	AM	41.3	D	41.2	D
		PM	48.6	D	49.5	D
21	Newell Drive / American Canyon Road	AM	42.6	D	49.8	D
		PM	45.9	D	45.0	D
22	Via Firenze / American Canyon Road	AM	15.0	B	15.0	B
		PM	12.0	B	12.9	B
23	Fairgrounds Drive / Flosden Road / Corcoran Avenue	AM	24.2	C	26.2	C
		PM	14.0	B	14.7	B
24	Fairgrounds Drive / SR 37 Westbound Ramps	AM	**37.6**	**D**	**59.6**	**E**
		PM	**40.6**	**D**	**73.8**	**E**
25	Fairgrounds Drive / SR 37 Eastbound Ramps	AM	13.5	B	14.0	B
		PM	15.0	B	16.4	B
26	Newell Drive / Rio Del Mar	AM	-	-	8.8	A
		PM	-	-	11.6	B

NOTES:
1 AM = morning peak hour, PM = evening peak hour
2 For signalized intersections and all-way stop-controlled intersections, average intersection delay and LOS based on 2000 HCM method is shown. Average control delay and (total control delay for the worst movement) are presented for side-street stop controlled intersections
3 LOS = Level of Service. LOS calculations conducted using the method described in the 2000 HCM.
4 As a result of downstream queues, the intersection has been designated LOS F in the PM peak hour.

Bold text indicates intersection operates at a deficient Level of Service. **Bold and red** indicates a significant impact.

SOURCE: Fehr & Peers, 2016, as provided in the Transportation Impact Study, Appendix J.1.

Based on the impact criteria listed in Section 4.12.5, *Thresholds of Significance*, under Existing Plus Background Plus Project Conditions without mitigation, significant impacts would occur at the following intersections:

- (#1) SR 29 / SR 12 / SR 121 (LOS E during both the AM and PM peak hours)
- (#2) SR 29 / SR 12 / SR 221 / Soscol Ferry Road (LOS F during both the AM and PM peak hours)
- (#3) SR 29 / SR 12 / Airport Boulevard (LOS F during both the AM and PM peak hours)
- (#4) SR 29 / South Kelly Road (LOS F during both the AM and PM peak hours)
- (#6) SR 29 / Napa Junction Road (LOS F during both the AM and PM peak hours)
- (#7) SR 29 / Eucalyptus Drive (LOS D during the AM peak hour, LOS F during the PM peak hour)
- (#8) SR 29 / Rio Del Mar (LOS E during the AM peak hour)
- (#10) SR 29 / Donaldson Way (LOS F during the AM peak hour)
- (#13) SR 29 / Meadows Drive (LOS F during the PM peak hour)
- (#24) Fairgrounds Drive / SR 37 Westbound Ramps (LOS E during both the AM and PM peak hours)

It should be noted that potential intersection impacts along the SR 29 Corridor between Napa Junction Road (#6) and American Canyon Road (#11), or the "gateway intersections", are grouped together in the discussion below. Though significant impacts would not occur at South Napa Junction Road / Poco Way (#9) or American Canyon Road (#11), the intersections are analyzed as a corridor because impacts at the gateway intersections would restrict the amount of traffic able to enter the corridor, resulting in unmet demand. Should vehicles be able to get through these intersections and access downstream intersections, those intersections would be affected as well.

(#1) SR 29 / SR 12 / SR 121

The addition of Project traffic under Existing Plus Background Plus Project Conditions would contribute more than 50 trips to an intersection operating at LOS E without the Project during the AM peak hour and would cause this intersection to deteriorate from LOS D to LOS E in the PM peak hour. This is a significant impact.

The State Route 29 Gateway Corridor Improvement Plan includes channelization of northbound through movement and southbound right-turn movement, making both movements uncontrolled (in addition to currently uncontrolled eastbound right-turn movement). With the improvements, the intersection would still operate at LOS F but delay would be significantly decreased.

This improvement is likely to be needed with or without development of the Project. The intersection of SR 29 / SR 12 / SR 121 is outside the American Canyon city limits and under the

jurisdiction of Caltrans. As such, the City would rely on the cooperation of a third-party agency to implement this improvement, which is not assured at the time of this writing. Thus, there is uncertainty that this improvement would be implemented as previously described, and, therefore, this impact would remain significant and unavoidable. Per the methodology for calculating fair share contribution for mitigation measures described in the Caltrans *Guide for the Preparation of Traffic Impact Studies,* the Project would be responsible for nine percent of the cost of the full improvements.

> **Mitigation Measure 4.12-2:** ***SR 29 / SR 12 / SR 121 Intersection Improvements*****.** Prior to issuance of the first building permit for each phase in the proposed Project, or recordation of the first final map for construction of each phase, whichever comes first, the Project Applicant shall pay a fair share contribution of the estimated construction costs for intersection improvements at SR 29 / SR 12 / SR 121. The fair share shall be calculated based on the California Department of Transportation (Caltrans) methodology at the time payment is required, subject to an agreement approved by the City Attorney of American Canyon and to occur in phases based on the projected traffic of the proposed Project and the estimated cost of the construction at that time. The improvements to the intersection are currently estimated at $472,000 per the Napa Valley Transportation Authority (NVTA) (then the Napa County Transportation and Planning Agency [NCTPA]) *SR 29 Gateway Corridor Improvement Plan* (dated February 2014).
>
> The City of American Canyon, as lead agency, does not have jurisdictional authority to approve or implement channelization improvements at this intersection, which would need to be approved and implemented by the Caltrans. Although the Project Applicant would be required to pay a fair share fee to the City for the Caltrans improvements, the implementation of the Caltrans improvements is uncertain because they have not been approved or fully funded. Consequently, the impact would remain significant and unavoidable. In order to collect this fee, Caltrans, NVTA, and the City of American Canyon would need to develop formal agreements regarding funding sources for the Caltrans improvements and the mechanism for collecting and transferring the funds, subject to approval by the City Attorney of American Canyon, for this mitigation measure to be feasible.
>
> **Significance after Mitigation:** Significant and Unavoidable.

(#2) Soscol Ferry Road / SR 29 / SR 12 / SR 221

The addition of Project traffic under Existing Plus Background Plus Project Conditions is expected to increase delay at the intersection by more than five seconds for an intersection operating at LOS F without the Project during the AM and PM peak hours. This is a significant impact.

As previously discussed, construction of a flyover ramp for traffic traveling from southbound SR 221 to southbound SR 29 / SR 12 would improve this intersection to acceptable LOS B or better in the AM and PM peak hour. The implementation of **Mitigation Measure 4.12-1a** would pay for the Project Applicant's fair share of construction cost of the proposed Project. Implementation of these improvements would be under the jurisdiction of Caltrans and no approved plans exist for these improvements. Consequently, uncertainty exists about when or whether the contemplated

improvements would be implemented and, therefore, the impact remains significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

(#3) SR 29 / SR 12 / Airport Blvd

The addition of Project traffic under Existing Plus Background Plus Project Conditions is expected to increase delay at the intersection by more than five seconds for an intersection operating at LOS F without the Project during the AM and PM peak hours. This is a significant impact.

As previously discussed, construction of a grade-separated interchange as proposed in the Napa County General Plan would improve operations, but the improvement is outside the American Canyon city limits and under the jurisdiction of Caltrans, as well as currently unfunded. The implementation of **Mitigation Measure 4.12-1b** would pay for the Project Applicant's fair share of the construction cost of the proposed Project. Implementation of these improvements would be under the jurisdiction of Caltrans and no approved plans exist for these improvements. Consequently, uncertainty exists about when or whether the contemplated improvements would be implemented and, therefore, the impact remains significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

(#4) SR 29 / South Kelly Road

The addition of Project traffic under Existing Plus Background Plus Project Conditions is expected to increase delay at the intersection by more than five seconds for an intersection operating at LOS E without the Project during the AM peak hour and operating at LOS F without the Project during the PM peak hour. This is a significant impact.

Implementation of **Mitigation Measure 4.12-1c** would increase capacity at the intersection, but because this intersection is impacted in the PM peak hour as a result of downstream queues, the impact would remain significant and unavoidable until changes to SR 29 through the City of American Canyon (between Napa Junction Road and American Canyon Road) are completed.

With the improvements stated in the State Route 29 Gateway Corridor Improvement Plan, the intersections through the City would operate acceptably and queues would not spill back to this location. However, those improvements have not been approved by Caltrans and are not funded and cannot be assumed at this time.

Significance after Mitigation: Significant and Unavoidable.

(#6) SR 29 / Napa Junction Road, (#7) SR 29 / Eucalyptus Drive, (#8) SR 29 / Rio Del Mar, (#9) SR 29 / South Napa Junction Road / Poco Way, (#10) SR 29 / Donaldson Way, (#11) SR 29 / American Canyon Road

The addition of Project traffic under Existing Plus Background Plus Project Conditions is expected to contribute to degradation of acceptable conditions to LOS F conditions through the SR 29

corridor and would contribute more than 50 trips to intersections during the AM and/or PM peak hours. This is a significant impact. As noted previously, these intersections are analyzed as a corridor because impacts at the SR 29 / Napa Junction Road (#6) and SR 29 / American Canyon Road (#11) gateway intersections would restrict the amount of traffic able to enter the corridor, resulting in unmet demand. As a result of these conditions, intersections may appear to improve downstream of bottlenecks. However, should vehicle volumes be able to get through these intersections and access downstream intersections, those intersections would be impacted as well. The Napa County General Plan calls for widening of SR 29 from SR 221 (Napa-Vallejo Highway) interchange to the Napa/Solano County line. In order to mitigate the Project's significant impact based on the criteria described earlier in this report, an additional through lane on SR 29 in the northbound and southbound directions should be constructed at this intersection, as is currently proposed. This improvement has been contemplated previously by Napa County and Caltrans, and would be needed with or without development of the Project.

As a portion of the SR 29 segment proposed to be widened is outside the American Canyon city limits and the entire roadway is under the jurisdiction of Caltrans, the City would rely on the cooperation of a third-party agency to implement these improvements, which is not assured at the time of this writing. Moreover, planning for widening is in the initial stages and identification of funding sources (e.g., a fair-share fee payment program) has not yet occurred. Thus, there is uncertainty that these improvements would be approved or implemented as previously described, and, therefore, this impact would remain significant and unavoidable. Should the planned roadway network changes stated in the State Route 29 Gateway Corridor Improvement Plan be constructed, the intersections through the City would operate acceptably.

In the interim, the Project will construct additional lane capacity at the intersection of (#8) SR 29 / Rio Del Mar. Changes to the intersection of (#8) SR 29 / Rio Del Mar will be necessary to allow access to the Project. Providing additional capacity at the intersection allows more vehicle traffic to be served at these intersections with less delay, but because there are not corresponding improvements at the bookends of the corridor, these changes just provide a temporary reprieve from at- or near-capacity conditions.

Therefore, while the additional capacity helps to better serve side street traffic at Rio Del Mar, limited through capacity along the remainder of the corridor is the foremost cause of high intersection delay and poor level of service. This condition at other intersections is not likely to be resolved through anything other than additional throughput capacity across the entire corridor. Because of this condition, the improvement will have little effect on travel speeds through the corridor.

The City of American Canyon has plans to install an adaptive signal system along SR 29 that will allow for coordination among the signals between Napa Junction Road and American Canyon Road. Models were built to simulate this condition (as well as improvements that will be implemented as part of the proposed Project at the SR 29 / Rio Del Mar intersection) to determine if this would be a potential mitigation measure for the congestion along SR 29. The signal system upgrade does add near-term capacity through the corridor, as a bridge to future

widening of SR 29. Under Existing Plus Background Plus Project Conditions, approximately 81 to 94 percent of demand would be served by the corridor during peak hours.

As noted above for **Mitigation Measure 4.12-1d**, the Project Applicant will fund, subject to applicable reimbursement or credit from future development, the installation of an adaptive signal system along SR 29 that coordinates the signals between Napa Junction Road and American Canyon Road. Although this measure would reduce delay along the corridor, it would not mitigate impacts to a less-than-significant level.

With the improvements stated in the State Route 29 Gateway Corridor Improvement Plan, the intersections through the City would operate acceptably and queues would not spill back to this location. However, those improvements are not funded and cannot be assumed at this time and the improvements proposed by **Mitigation Measure 4.12-1d** will not fully mitigate the impacts.

Significance after Mitigation: Significant and Unavoidable.

(#13) SR 29 / Meadows Drive

The addition of Project traffic under Existing Plus Background Plus Project Conditions is expected to increase the volume-to-capacity ratio at the intersection by more than 0.01 for an intersection operating at LOS E without the Project during the PM peak hour. This is a significant impact.

The construction of a third through lane in both the northbound and southbound approaches would improve this intersection to LOS D or better in the AM and PM peak hours. The widening improvement is not currently planned in the Solano County General Plan, the Vallejo General Plan, or the Caltrans State Transportation Improvement Program, nor is it included for widening program proposed in the SR 29 Gateway Corridor Improvement Plan. This intersection is also outside the American Canyon city limits and under the jurisdiction of Caltrans. Because this improvement is not contemplated in local, regional, or state plans, its implementation is speculative and would depend on initiation, planning, approval, and funding by other agencies. The City of American Canyon does not have jurisdictional authority to approve or implement this improvement. Consequently, this improvement is not feasible and this impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

(#24) Fairgrounds Drive / SR 37 Westbound Ramps

The addition of Project traffic under Existing Plus Background Plus Project Conditions is expected to cause this intersection to deteriorate from LOS D to LOS E in the AM and PM peak hours. This is a significant impact.

As previously discussed, construction of additional lane capacity would improve this intersection to an acceptable LOS in the AM and PM peak hours. However, additional lane capacity at this intersection is not currently planned in the Solano County General Plan, the Vallejo General Plan, or the Caltrans State Transportation Improvement Program. This intersection is also

outside the American Canyon city limits and is under the jurisdiction of the City of Vallejo. Because this improvement is not contemplated in local, regional, or state plans, its implementation is speculative and would depend on initiation, planning, approval, and funding by other agencies. The City of American Canyon does not have jurisdictional authority to approve or implement this improvement. Consequently, the improvement is not feasible and this impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Summary of Impacts

Significant impacts would occur at ten intersections with addition of Project-related trips under the Existing Plus Background Plus Project scenario. Four mitigation measures have been identified that would fully or partially alleviate impacts at some of the impacted intersections: **Mitigation Measure 4.12-1a**, **4.12-1b**, **4.12-1c, 4.12-1d,** and **4.12-2**. The discussion above identifies improvements that would mitigate impacts at some of the identified intersections. Implementation of these improvements would be outside the jurisdiction of the City and no approved plans exist for these improvements. Consequently, uncertainty exists about when or whether the contemplated improvements would be implemented and, therefore, the impact remains significant and unavoidable. Other improvements have been determined to be infeasible.

Significance after Mitigation: Significant and Unavoidable.

Cumulative Plus Project Traffic Conditions

Impact 4.12-3: The proposed Project would contribute to unacceptable traffic operations under Cumulative Plus Project Conditions, even with implementation of the identified mitigation measures. Impacts would be significant and unavoidable. (Significant and Unavoidable)

This discussion presents the results of LOS calculations under Cumulative Conditions with and without the Project. Cumulative Conditions are defined as existing volumes plus traffic generated by complete buildout of the City of American Canyon General Plan, as well as all planned growth from reasonable land use projections for the year 2035 from the Napa-Solano County Travel Demand Forecasting Model (N-STDM). Cumulative Plus Project Conditions are defined as Cumulative Conditions plus traffic generated by the proposed Project.

The model was recently updated for use with the SR 29 Gateway Corridor Plan, which included updates from the American Canyon General Plan Circulation Element Update (2012), MTC's Transportation 2035 Plan for the San Francisco Bay Area (2009), the Napa County General Plan (2009), and ABAG's 2011 SCS Preferred Land Use Scenario. Cumulative forecasts were developed and checked against forecasts for other projects for consistency, including Canyon Estates, Napa Logistics Park, Napa Airport Corporate Center, and the Napa Pipe EIR.

Additionally, two sets of forecasts were completed in able to establish accurate travel patterns for this scenario – one without an east-west connection across SR 29 at Rio Del Mar, and one with the extension. Two sets of independent forecasts were needed because the new connection would change local circulation patterns for traffic unrelated to the Project. More vehicles are able to pass to/from the east side of SR 29 from/to the west side. As a result, fewer vehicles would be on SR 29 through the City between Napa Junction Road and American Canyon Road.

As noted previously for Existing Plus Project conditions, the Project would extend Rio Del Mar from its current terminus at SR 29 to the western boundary of the Project site with a new grade-separated railroad crossing underneath the existing Union Pacific Railroad (UPRR) line. Intersection improvements would be constructed at the Rio Del Mar and SR 29 intersection to allow for full access to the extension from all directions of travel. The Project would also construct a third lane in each direction on SR 29 between Rio Del Mar and Eucalyptus Drive. Traffic signals would be modified to accompany these physical improvements at both intersections.

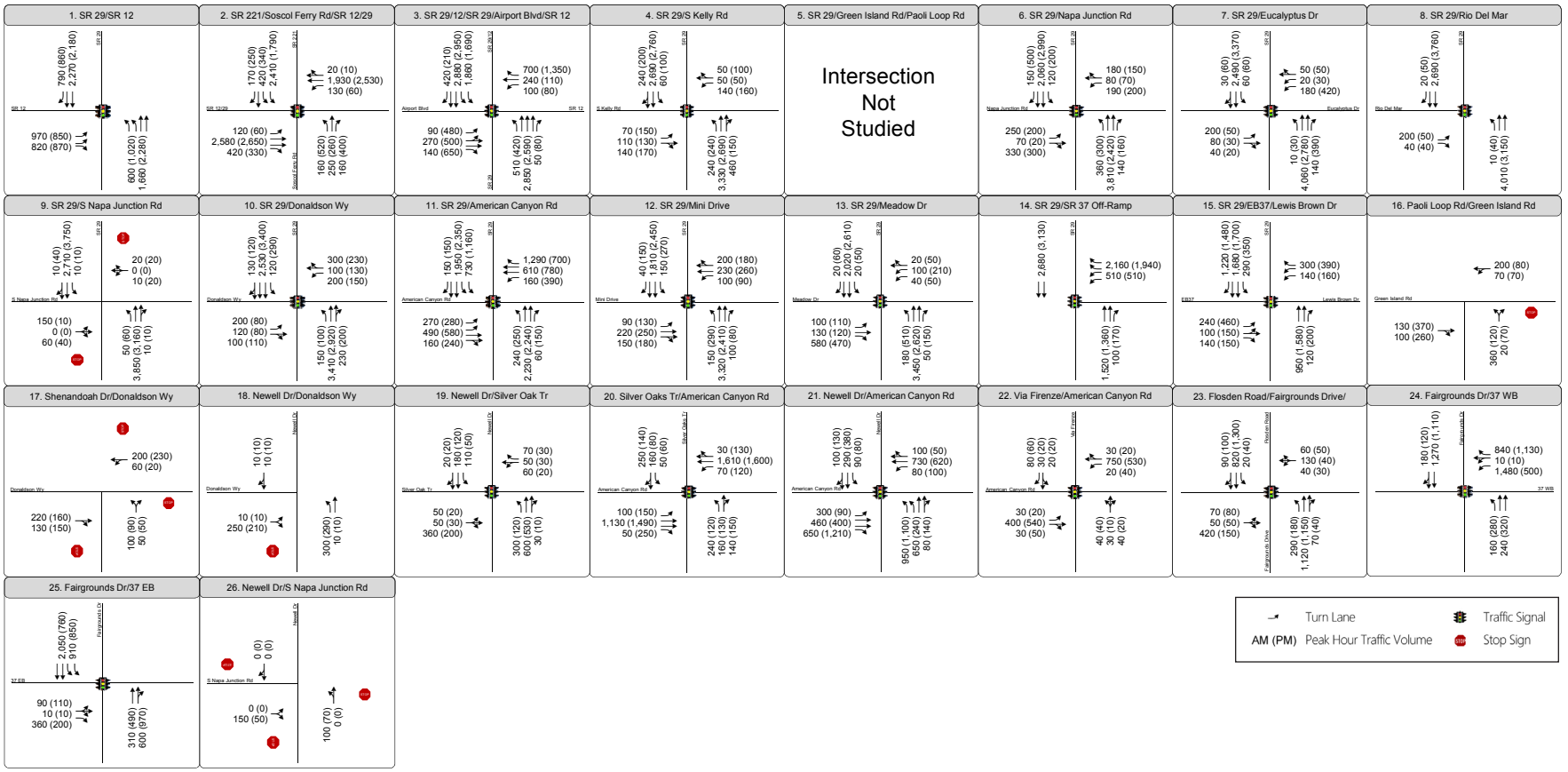
This analysis does not include the Newell Drive extension from its terminus at the northern project boundary to SR 29. This ultimate connection is included in the City of American Canyon Circulation Element, but it is not proposed as a part of the Project and is not currently contemplated to be constructed within the time frame of the phased development of the Project.

The resulting volumes representing Cumulative Conditions (no east-west connection) are shown on **Figure 4.12-10**. Using the travel patterns established by comparing the two forecasts described above, net new trips from the proposed Project were added to the Cumulative traffic projections to develop traffic volumes for Cumulative Plus Project Conditions. The resulting volumes are shown on **Figure 4.12-11**.

Table 4.12-12 presents LOS calculations for the study intersections under Cumulative Conditions and Cumulative Plus Project Conditions. Under Cumulative Plus Project Conditions without mitigation, five of 26 study intersections operate at acceptable LOS (based on criteria set forth by the respective jurisdictions) during the AM peak hour and four of 26 operate at acceptable LOS during the PM peak hour.

As mentioned previously, intersections along SR 29 between Napa Junction Road (#6) and American Canyon Road (#11) were modeled with VISSIM. Both with and without the Project, the corridor serves 57 to 61 percent of the demand in the AM peak hour and 53 to 55 percent of the estimated demand in the PM peak hour. Stated in another manner, approximately forty percent of the demand would not be able to get through the corridor during the peak hours due to capacity constraints.

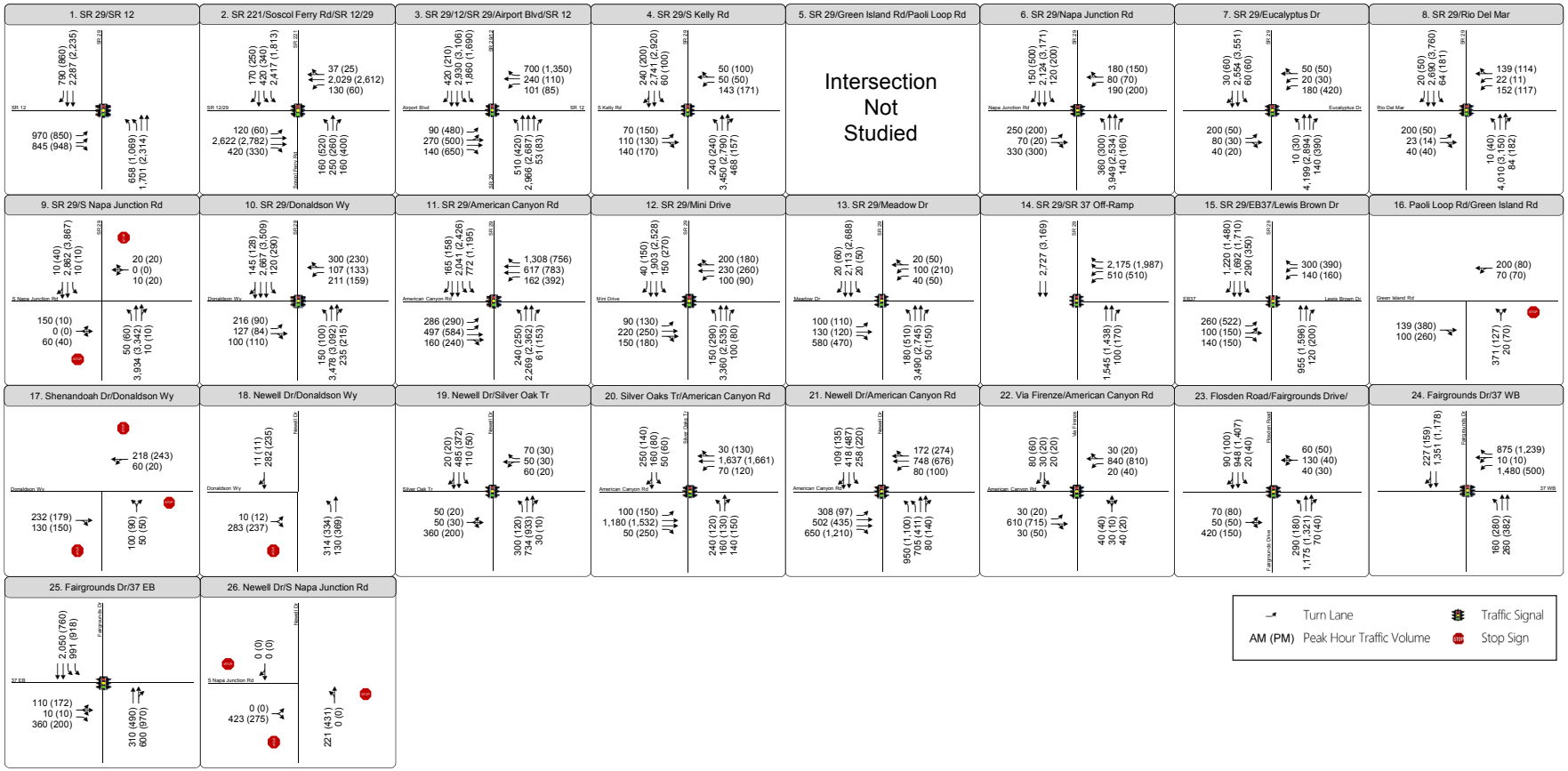
The VISSIM models show that peak hour speeds through the corridor are much less than uncongested off-peak speeds in both peak hours. In the AM peak hour, the average travel speed is six mph in the northbound direction and 21 mph in the southbound direction. In the PM peak hour, the average travel speed is ten mph in both the northbound and southbound directions. Due to congestion, there is little difference between the travel speeds in the No Project and Plus Project models in this scenario.



SOURCE: Fehr & Peers, 2016

Figure 4.12-10

Lane Configurations, Traffic Control, and Peak Hour Traffic Volumes – Cumulative Conditions



SOURCE: Fehr & Peers, 2016

Watson Ranch Specific Plan . 130779

Figure 4.12-11

Lane Configurations, Traffic Control, and Peak Hour Traffic Volumes – Cumultive Plus Project Conditions

TABLE 4.12-12
CUMULATIVE PLUS PROJECT INTERSECTION LEVELS OF SERVICE

#	Intersection	Peak Hour[1]	Cumulative Conditions		Cumulative Plus Project	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1	SR 29 / SR 12 / SR 121	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
2	SR 29 / SR 12 / SR 221 / Soscol Ferry Road	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
3	SR 29 / SR 12 / Airport Boulevard	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
4	SR 29 / South Kelly Road	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
5	SR 29 / Green Island Road / Paoli Loop Road	AM	-	-	-	-
		PM	-	-	-	-
6	SR 29 / Napa Junction Road	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
7	SR 29 / Eucalyptus Drive	AM	40.6	D	**55.4**	**E**
		PM	**>80**	**F**	**>80**	**F**
8	SR 29 / Rio Del Mar	AM	31.6	C	**57.4**	**E**
		PM	33.5	C	**>80**	**F**
9	SR 29 / South Napa Junction Road / Poco Way	AM	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**
		PM	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**
10	SR 29 / Donaldson Way	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
11	SR 29 / American Canyon Road	AM	>80	F	**>80**	**F**
		PM	>80	F	**>80**	**F**
12	SR 29 / Mini Drive	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
13	SR 29 / Meadows Drive	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
14	SR 29 / SR 37 Westbound On-Ramp	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
15	SR 29 / SR 37 Eastbound Ramps / Lewis Brown Drive	AM	**40.7**	**D**	**41.8**	**D**
		PM	**>80**	**F**	**>80**	**F**
16	Paoli Loop Road / Green Island Road	AM	23.5 **(>50)**	C **(F)**	27.2 **(>50)**	D **(F)**
		PM	10.0 **(46.9)**	A **(E)**	11.6 **(>50)**	B **(F)**
17	Shenandoah Drive / Donaldson Way	AM	13.3	B	14.0	B
		PM	10.1	B	10.4	B
18	Newell Drive / Donaldson Way	AM	8.7 (10.5)	A (B)	8.2 (18.8)	A (C)
		PM	8.2 (9.9)	A (A)	5.7 (15.8)	A (C)
19	Newell Drive / Silver Oak Trail	AM	38.9	D	**47.9**	**D**
		PM	13.7	B	15.9	B
20	Broadway Street / Silver Oak Trail / American Canyon Road	AM	**>80**	**F**	**>80**	**F**
		PM	**75.3**	**E**	**>80**	**F**
21	Newell Drive / American Canyon Road	AM	**>80**	**F**	**>80**	**F**
		PM	**>80**	**F**	**>80**	**F**
22	Via Firenze / American Canyon Road	AM	20.4	C	24.1	C
		PM	16.9	B	19.4	B
23	Fairgrounds Drive / Flosden Road / Corcoran Avenue	AM	**45.8**	**D**	**54.8**	**D**
		PM	21.0	C	**22.6**	**C**
24	Fairgrounds Drive / SR 37 Westbound Ramps	AM	**>80**	**F**	**>80**	**F**
		PM	**68.5**	**E**	**>80**	**F**
25	Fairgrounds Drive / SR 37 Eastbound Ramps	AM	30.1	C	32.2	C
		PM	31.4	C	**38.1**	**D**
26	Newell Drive / Rio Del Mar	AM	-	-	11.0	B
		PM	-	-	13.7	B

NOTES:
1 AM = morning peak hour, PM = evening peak hour
2 For signalized intersections and all-way stop-controlled intersections, average intersection delay and LOS based on 2000 HCM method is shown. Average control delay and (total control delay for the worst movement) are presented for side-street stop controlled intersections
3 LOS = Level of Service. LOS calculations conducted using the method described in the 2000 HCM.
4 As a result of downstream queues, the intersection has been designated LOS F in the PM peak hour.

Bold text indicates intersection operates at a deficient Level of Service. **Bold and red** indicates a significant impact.

SOURCE: Fehr & Peers, 2016 as provided in the Transportation Impact Study, Appendix J.1.

The results of the simulations show that SR 29 (as a four-lane facility) serves far less than the total demand of northbound and southbound through traffic without the Project. The Project adds northbound and southbound through traffic at most of these intersections. Delay does not consistently increase in the VISSIM models, because additional vehicles cannot get to the intersections. With a congested corridor that is over-capacity, and without the ability to serve any Project traffic, the addition of Project traffic simply adds to delays and long vehicle queues. As a result, vehicle traffic impacts at these intersections are all considered to be significant.

The proposed Project has been designed with many features typically found in a Transportation Demand Management (TDM) Program that are designed to reduce Project trip generation and VMT, such as compliance with the City's complete Streets Policy, integration of trails and multi-use paths for bicycles and pedestrians, interconnection with regional trails (Napa Valley Vine Trail and San Francisco Bay trail), and connectivity to recreation and commercial land uses. The Project's vehicle trip generation and VMT may be further reduced through the implementation of a TDM program that would apply to the NVR&G area and the hotel, which is proposed by Mitigation Measure 4.12-3a.

> **Mitigation Measure 4.12-3a (same as Mitigation Measure 4.2-2 in Section 2, *Air Quality)*: *Transportation Demand Management (TDM) Program*.** Prior to issuance of the first building permit for the proposed Project or with submittal of the first development entitlement application (e.g., tentative map, design permit, conditional use permit) for the non-residential use areas (i.e., NVR&G and hotel), whichever comes first, the Project Applicant shall develop a TDM program for the non-residential use areas (i.e., Napa Valley Ruins & Gardens and hotel) and shall submit the TDM program to the City Department of Public Works for review and approval. The applicant shall be responsible for funding and overseeing the delivery of trip reduction/TDM proposed programs and strategies, which may include, but are not limited to, the following:
>
> 1. Establishment of carpool, buspool, or vanpool programs;
> 2. Vanpool purchase incentives;
> 3. Cash allowances, passes or other public transit subsidies and purchase incentives;
> 4. Preferential parking locations for ridesharing vehicles;
> 5. Computerized commuter rideshare matching services;
> 6. Guaranteed ride-home program for ridesharing;
> 7. Bicycle programs including bike purchase incentives, storage, and maintenance programs;
> 8. Onsite car share and bike share service;
> 9. Preparation of a Parking Management Plan to address parking accommodations for large events; and
> 10. Designation of an onsite transportation coordinator for the project.

With mitigation measures from the City that can reasonably be expected to be constructed by the buildout year (including those mentioned in **Mitigation Measure 4.12-1a** through **4.12-1d** and **Mitigation Measure 4.12-2** and expansion of SR 29 to six lanes through the City), the SR 29 corridor through the City would be able to serve 99 percent of the projected future vehicle demand. The improvements at SR 29 / SR 12 / Airport Road and SR 29 / SR 221 / Soscol Ferry Road would also eliminate conflicts along the highway and/or significantly increase capacity at intersections. However, since the SR 29 expansion and proposed intersection improvements in the SR 29 Corridor have not yet been approved or funded, they are not assumed in the cumulative analysis.

With **Mitigation Measure 4.12-1c**, the intersection of South Kelly Road and SR 29 would operate at LOS C during both peak hours. With **Mitigation Measure 4.12-2**, the intersection of SR 29 / SR 12 / SR 121 would operate at LOS D or better during both peak hours.

However, all four mitigation measures noted above would apply to locations beyond the jurisdiction of the City and have not been approved or funded and would require reliance on the cooperation of a third-party agency for implementation, which is not assured at the time of this writing. Therefore, these mitigation measures have not been assumed in the following analysis.

Based on the impact criteria listed in Section 4.12.5, *Thresholds of Significance*, under Cumulative Plus Project Conditions without mitigation, the following intersections are impacted:

- (#1) SR 29 / SR 12 / SR 121 (LOS F during both the AM and PM peak hours)
- (#2) SR 29 / SR 12 / SR 221 / Soscol Ferry Road (LOS F during both the AM and PM peak hours)
- (#3) SR 29 / SR 12 / Airport Boulevard (LOS F during both the AM and PM peak hours)
- (#4) SR 29 / South Kelly Road (LOS F during both the AM and PM peak hours)
- (#6) SR 29 / Napa Junction Road (LOS F during both the AM and PM peak hours)
- (#7) SR 29 / Eucalyptus Drive (LOS E during the AM peak hour, LOS F during the PM peak hour)
- (#8) SR 29 / Rio Del Mar (LOS E during the AM peak hour, LOS F during the PM peak hour)
- (#10) SR 29 / Donaldson Way (LOS F during both the AM and PM peak hours)
- (#11) SR 29 / American Canyon Road (LOS F during both the AM and PM peak hours)
- (#12) SR 29 / Mini Drive (LOS F during both the AM and PM peak hours)
- (#13) SR 29 / Meadows Drive (LOS F during both the AM and PM peak hours)
- (#14) SR 29 / SR 37 Westbound Ramps (LOS F during both the AM and PM peak hours)
- (#15) SR 29 / SR 37 Eastbound Ramps / Lewis Brown Drive (LOS F during the PM peak hour)

- (#19) Newell Drive / Silver Oak Trail (LOS D during the AM peak hour)
- (#20) Broadway Street / Silver Oak Trail / American Canyon Road (LOS F during both the AM and PM peak hours)
- (#21) Newell Drive / American Canyon Road (LOS F during both the AM and PM peak hours)
- (#23) Fairgrounds Drive / Flosden Road / Corcoran Ave (LOS D during the AM peak hour, LOS C during PM peak hour)
- (#24) Fairgrounds Drive / SR 37 Westbound Ramps (LOS F during both the AM and PM peak hours)
- (#25) Fairgrounds Drive / SR 37 Eastbound Ramps (LOS D during the PM peak hour)

It should be noted that potential intersection impacts along the SR 29 Corridor between Napa Junction Road (#6) and American Canyon Road (#11), or the "gateway intersections," are grouped together in the discussion below. Though significant impacts would not occur at South Napa Junction Road / Poco Way (#9), the intersections are analyzed as a corridor because impacts at the gateway intersections would restrict the amount of traffic able to enter the corridor, resulting in unmet demand. Should vehicles be able to get through these intersections and access downstream intersections, that intersection would be affected as well.

(#1) SR 29 / SR 12

The addition of Project traffic under Cumulative Plus Project Conditions is expected to increase delay at intersection by more than five seconds for an intersection operating at LOS F without the Project during the AM and PM peak hours. This is a significant impact.

As previously discussed, construction of channelization improvements to the intersection would improve this intersection in the AM and PM peak hour (though the intersection would remain at LOS F). The implementation of **Mitigation Measure 4.12-2** would pay the Project Applicant's fair share construction cost of the proposed Project. Implementation of these improvements would be under the jurisdiction of Caltrans and no approved plans exist for these improvements. Consequently, uncertainty exists about when or whether the contemplated improvements would be implemented and, therefore, the impact remains significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

(#2) Soscol Ferry Road / SR 221 / SR 12 / SR 29

The addition of Project traffic under Cumulative Plus Project Conditions is expected to increase delay at intersection by more than five seconds for an intersection operating at LOS F without the Project during the AM and PM peak hours. This is a significant impact.

As previously discussed, construction of a flyover ramp for traffic traveling from southbound SR 221 to southbound SR 29 / SR 12 would improve this intersection to acceptable LOS B or better in the AM and PM peak hour. Implementation of **Mitigation Measure 4.12-1a** would pay for the

Project Applicant's fair share of the construction cost of the Caltrans project. Implementation of these improvements would be under the jurisdiction of Caltrans and no approved plans exist for these improvements. Consequently, uncertainty exists about when or whether the contemplated improvements would be implemented and, therefore, the impact remains significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

(#3) SR 29 / SR 12 / Airport Blvd / SR 12

The addition of Project traffic under Cumulative Plus Project Conditions is expected to increase the delay at the intersection by more than five seconds for an intersection operating at LOS F without the Project during the AM and PM peak hours. This is a significant impact.

As previously discussed, construction of a grade-separated interchange as proposed in the Napa County General Plan would improve operations, but the improvement is outside the American Canyon city limits and under the jurisdiction of Caltrans, as well as currently unfunded. The implementation of **Mitigation Measure 4.12-1b** would pay for the Project Applicant's fair share of the construction cost of the Caltrans improvements. Implementation of these improvements would be under the jurisdiction of Caltrans and no approved plans exist for these improvements. Consequently, uncertainty exists about when or whether the contemplated improvements would be implemented and, therefore, the impact remains significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

(#4) SR 29 / South Kelly Road

The addition of Project traffic under Cumulative Plus Project Conditions is expected to increase the delay at the intersection by more than five seconds for an intersection operating at LOS F without the Project during the AM and PM peak hours. This is a significant impact.

Implementation of **Mitigation Measure 4.12-1c** would increase capacity at the intersection, but because this intersection is impacted in the PM peak hour as a result of downstream queues, the impact would remain significant and unavoidable until changes to SR 29 through the City of American Canyon (between Napa Junction Road and American Canyon Road) are completed.

With construction of improvements stated in the State Route 29 Gateway Corridor Improvement Plan, the intersections through the City would operate acceptably and queues would not spill back to this location. However, those improvements have not been approved by Caltrans and are not funded and cannot be assumed at this time.

Significance after Mitigation: Significant and Unavoidable.

(#6) SR 29 / Napa Junction Road, (#7) SR 29 / Eucalyptus Drive, (#8) SR 29 / Rio Del Mar, (#9) SR 29 / South Napa Junction Road / Poco Way, (#10) SR 29 / Donaldson Way, (#11) SR 29 / American Canyon Road

The addition of Project traffic under Cumulative Plus Project Conditions is expected to contribute to the degradation of acceptable conditions to LOS F conditions through the corridor and would contribute more than 50 trips to the intersections during the AM and/or PM peak hours. This is a significant impact. As noted previously, these intersections are analyzed as a corridor because impacts at the SR 29 / Napa Junction Road (#6) and SR 29 / American Canyon Road (#11) gateway intersections would restrict the amount of traffic able to enter the corridor, resulting in unmet demand. As a result of these conditions, intersections may appear to improve downstream of the bottlenecks. However, should vehicle volumes be able to get through these intersections and access downstream intersections, those intersections would be impacted as well.

The Napa County General Plan calls for widening SR 29 from SR 221 (Napa-Vallejo Highway) interchange to the Napa/Solano County line. In order to mitigate the Project's significant impact based on the criteria described earlier in this report, the additional through lane on SR 29 in the northbound and southbound directions should be constructed at this intersection, as is currently proposed. This improvement has been contemplated previously by Napa County and Caltrans, and would be needed with or without development of the Project.

As noted previously under the Planned Transportation Network Changes discussion, the City of American Canyon's TIF Program includes widening SR 29 from the south City limits (just south of Kimberly Drive) to the north City limits (just south of South Kelly Road). The Project Applicant would be required to pay into the TIF program per the City's guidelines, which would be used to fund this and other planned transportation improvements within the City once improvements are approved and programmed for implementation. There is currently no timeline to construct the SR 29 widening, and it has not be approved or funded by Caltrans.

As a portion of the SR 29 segment proposed to be widened is outside the American Canyon city limits and the entire roadway is under the jurisdiction of Caltrans, the City would be relying on the cooperation of a third-party agency to implement these improvements, which is not assured at the time of this writing. Moreover, planning for widening is in the initial stages and identification of funding sources (e.g., a fair-share fee payment program) has not yet occurred. Thus, there is uncertainty that these improvements would be approved or implemented as previously described, and, therefore, this impact would remain significant and unavoidable. Should the planned roadway network changes stated in the State Route 29 Gateway Corridor Improvement Plan be constructed, the intersections through the City would operate acceptably.

As noted above for **Mitigation Measure 4.12-1d**, the Project Applicant will fund, subject to applicable reimbursement or credit from future development, the installation of an adaptive signal system along SR 29 that will coordinate the signals between Napa Junction Road and American Canyon Road. This measure would not reduce corridor impacts to a less-than-significant level.

Significance after Mitigation: Significant and Unavoidable.

(#12) SR 29 / Mini Drive

The addition of Project traffic under Cumulative Plus Project Conditions is expected to increase the delay at the intersection by more than five seconds for an intersection operating at LOS F without the Project during the AM and PM peak hours. This is a significant impact.

The construction of a third through lane in both the northbound and southbound approaches would improve this intersection to LOS C or better in the AM and PM peak hours. The widening improvement is not currently planned in the Solano County General Plan, the Vallejo General Plan, or the Caltrans State Transportation Improvement Program, nor is it included for widening program proposed in the SR 29 Gateway Corridor Improvement Plan. This intersection is also outside the American Canyon city limits and under the jurisdiction of Caltrans. As such, the City would be relying on the cooperation of a third-party agency to implement this improvement, which is not assured at the time of this writing. This impact would remain significant and unavoidable because there is uncertainty that this improvement would be implemented as previously described.

Significance after Mitigation: Significant and Unavoidable.

(#13) SR 29 / Meadows Drive

The addition of Project traffic under Cumulative Plus Project Conditions is expected to increase the delay at the intersection by more than five seconds for an intersection operating at LOS F without the Project during the AM and PM peak hours. This is a significant impact.

As mentioned previously, the construction of a third through lane in both the northbound and southbound approaches would improve this intersection to LOS D or better in the AM and PM peak hours. However, the widening improvement is not currently planned and the intersection is also outside the American Canyon city limits and under the jurisdiction of Caltrans. Because this improvement is not contemplated in local, regional, or state plans, its implementation is speculative and would depend on initiation, planning, approval, and funding by other agencies. The City of American Canyon does not have jurisdictional authority to approve or implement this improvement. Consequently, this improvement is not feasible and this impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

(#14) SR 29 / SR 37 Westbound Ramps

The addition of Project traffic under Cumulative Plus Project Conditions is expected to increase the delay at the intersection by more than five seconds for an intersection operating at LOS F without the Project during the AM and PM peak hours. This is a significant impact.

The State Route 29 Gateway Corridor Improvement Plan, prepared by NVTA, provides a community driven plan and implementation strategy for the southern section of SR 29, including the SR 29 / SR 37 interchange. The Plan evaluated alternatives and did not recommend any changes to the interchange, given a stated goal to focus on improving multimodal accessibility and

aesthetics. The vision identified in the Plan is consistent with the Sonoma Boulevard Specific Plan, prepared by the City of Vallejo for the portion of SR 29 south of SR 37, which calls for a similar approach to improving the SR 29 corridor. The provision of additional travel lanes on SR 29 at the SR 37 interchange, which would be required to mitigate LOS conditions, would be inconsistent with these plans. Therefore, this would be a Significant and Unavoidable impact.

Significance after Mitigation: Significant and Unavoidable.

(#15) SR 29 / SR 37 Eastbound Ramps / Lewis Brown Drive

The addition of Project traffic under Cumulative Plus Project Conditions is expected to increase the delay at the intersection by more than five seconds for an intersection operating at LOS F without the Project during the PM peak hour. This is a significant impact.

The State Route 29 Gateway Corridor Improvement Plan, prepared by NVTA, provides a community-driven plan and implementation strategy for the southern section of SR 29, including the SR 29 / SR 37 interchange. The Plan evaluated alternatives and did not recommend any changes to the interchange, given a stated goal to focus on improving multimodal accessibility and aesthetics. The vision identified in the Plan is consistent with the Sonoma Boulevard Specific Plan, prepared by the City of Vallejo for the portion of SR 29 south of SR 37, which calls for a similar approach to improving the SR 29 corridor. The provision of additional travel lanes on SR 29 at the SR 37 interchange, which would be required to mitigate LOS conditions, would be inconsistent with these plans. Therefore, this would be a Significant and Unavoidable impact.

Significance after Mitigation: Significant and Unavoidable.

(#19) Newell Drive / Silver Oak Trail

The addition of Project traffic under Cumulative Plus Project Conditions is expected to increase the delay at the intersection from less than 40 seconds at LOS D without the Project to more than 40 seconds at LOS D during the AM peak hour. This is a significant impact.

Additional lane capacity would be needed to improve this intersection to an acceptable LOS in the AM peak hour. However, this improvement is considered infeasible due to right of way constraints at the intersection, which is adjacent to residential homes and would require the acquisition of these recently-built homes. This improvement could also interfere with the primary access to American Canyon High School during construction activities. Therefore, this impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

(#20) Broadway Street / Silver Oak Trail / American Canyon Road

The addition of Project traffic under Cumulative Plus Project Conditions would contribute more than 50 trips to an intersection operating at LOS F without the Project during the AM peak hour and is expected to increase the delay at the intersection by more than five seconds for an intersection operating at LOS E without the Project during the PM peak hour. This is a significant impact.

In order to mitigate the impact at this location, an exclusive southbound right-turn lane should be constructed for traffic traveling from southbound Silver Oak Trail to westbound American Canyon Road and visibility obstructions should be removed to allow right-turn-on-red movements. The southbound right turn lane has been identified as a primary mitigation measure for the Village at Vintage Ranch, a planned development project that is currently under review by the City of American Canyon. Implementation of these measures would improve level of service conditions to LOS D during both the AM and PM peak hours.

Mitigation Measure 4.12-3b: ***American Canyon Road / Silver Oak Trail Intersection Improvements*****.** Prior to issuance of the first building permit for each phase in the proposed Project, or recordation of the first final map for construction of each phase, whichever comes first, the Project Applicant shall pay a fair share contribution toward the cost of improvements at the intersection of American Canyon Road/Silver Oak Trail that removes visibility obstructions to allow right-turn-on-red movements and the addition of an exclusive southbound right-turn lane. The fair share shall be calculated at the time payment is required, based on the projected traffic of the proposed Project and the estimated cost of the construction at that time. The southbound right turn lane is not currently included in the citywide transportation fee program. Since the pending Village at Vintage Ranch project is in the City's development review process, and the right turn lane is not included in the city transportation fee program, full funding for this mitigation measure is not assured. The City and Applicant shall enter into a fair share agreement prior to payment of this fee.

Significance after Mitigation: Significant and unavoidable.

(#21) Newell Drive / American Canyon Road

The addition of Project traffic under Cumulative Plus Project Conditions is expected to increase delay at the intersection by more than five seconds for an intersection operating at LOS F without the Project during the AM peak hour and would contribute more than 50 trips to an intersection operating at LOS F without the Project during the PM peak hour. This is a significant impact.

Significant additional lane capacity would be needed to improve this intersection to an acceptable LOS in the AM and PM peak hour. This improvement is considered infeasible due to right of way constraints at the intersection, which would require acquisition of a multi-family housing complex and potential biological impacts on the north side of American Canyon Road. Thus, there is uncertainty that this improvement would be implemented, and, therefore, this impact would remain significant and unavoidable. Additionally, the City of American Canyon Circulation Element LOS D policy 1.6 acknowledges that this intersection would operate at a level of service worse than LOS D under buildout of the General Plan and has exempted it from the LOS D Policy 1.6.

Significance after Mitigation: Significant and Unavoidable.

(#23) Fairgrounds Drive / Flosden Road / Corcoran Avenue

The addition of Project traffic under Cumulative Plus Project Conditions is expected to increase the volume-to-capacity ratio at the intersection by more than 0.02 for an intersection operating at LOS D without the Project during the AM peak hour and is expected to increase the volume-

to-capacity ratio at the intersection by more than 0.04 for an intersection operating at LOS D C without the Project during the PM peak hour. This is a significant impact.

Additional lane capacity (and right-of-way) would be needed to improve this intersection to an acceptable LOS in the AM peak hour. Given the available capacity for vehicle traffic, any roadway widening may conflict with City of Vallejo policies to promote pedestrian and bicycle activity. Roadway widening can decrease the desire of pedestrians and bicyclists to use a facility.

This additional lane capacity is not currently planned in the Solano County General Plan or the Vallejo General Plan and may be infeasible. This intersection is also outside the American Canyon city limits and is under the jurisdiction of the City of Vallejo. Because this improvement is not contemplated in local, regional, or state plans, its implementation is speculative and would depend on initiation, planning, approval, and funding by other agencies. The City of American Canyon does not have jurisdictional authority to approve or implement this improvement. Consequently, the improvement is not feasible and this impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

(#24) Fairgrounds Drive / SR 37 Westbound Ramps

The addition of Project traffic under Cumulative Plus Project Conditions is expected to increase delay at the intersection by more than five seconds for an intersection operating at LOS F without the Project during the AM peak hour and at LOS E without the Project during the PM peak hour. This is a significant impact.

As previously discussed, construction of additional lane capacity would improve this intersection to an acceptable LOS in the AM and PM peak hours. However, additional lane capacity at this intersection is not currently planned in the Solano County General Plan, the Vallejo General Plan, or the Caltrans State Transportation Improvement Program. This intersection is also outside the American Canyon city limits and is under the jurisdiction of the City of Vallejo. Because this improvement is not contemplated in local, regional, or state plans, its implementation is speculative and would depend on initiation, planning, approval, and funding by other agencies. The City of American Canyon does not have jurisdictional authority to approve or implement this improvement. Consequently, the improvement is not feasible and this impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

(#25) Fairgrounds Drive / SR 37 Eastbound Ramps

The addition of Project traffic under Cumulative Plus Project Conditions is expected to cause this intersection to deteriorate from LOS C to LOS D in the PM peak hour. This is a significant impact.

Additional lane capacity would be needed to improve this intersection to an acceptable LOS in the PM peak hour. This improvement is not currently planned in the Solano County General

Plan, the Vallejo General Plan, or the Caltrans State Transportation Improvement Program. This intersection is also outside the American Canyon city limits and is under the jurisdiction of the City of Vallejo. Because this improvement is not contemplated in local, regional, or state plans, its implementation is speculative and would depend on initiation, planning, approval, and funding by other agencies. The City of American Canyon does not have jurisdictional authority to approve or implement this improvement. Consequently, the improvement is not feasible and this impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Summary of Impacts

Significant impacts would occur at 19 intersections with addition of project-related trips under the Cumulative Plus Project scenario. Six mitigation measures have been identified that would fully or partially alleviate impacts at some of the impacted intersections: **Mitigation Measures 4.12-1a**, **4.12-1b**, **4.12-1c, 4.12-1d, 4.12-2, and 4.12-3b**. The discussion above identifies improvements that would mitigate impacts at some of the identified intersections. Implementation of these improvements would be outside the jurisdiction of the City and no approved plans exist for these improvements. Consequently, uncertainty exists about when or whether the contemplated improvements would be implemented and, therefore, the impact remains significant and unavoidable. Other improvements have been determined to be infeasible.

Significance after Mitigation: Significant and Unavoidable.

Congestion Management Plan Impact

Impact 4.12-4: The proposed Project would conflict with an applicable congestion management program, even with implementation of the identified mitigation measures. Impacts would be significant and unavoidable. (Significant and Unavoidable)

SR 12, SR 29, SR 37, and SR 221 are facilities addressed in congestion management plans in Napa and Solano counties. As discussed in Impacts 4.12-1, 4.12-2, and 4.12-3, the proposed Project would generate new vehicle trips that would contribute to unacceptable operations on these facilities. **Mitigation Measure 4.12-1a**, **Mitigation Measure 4.12-1b**, **Mitigation Measure 4.12-1c**, **Mitigation Measure 4.12-1d**, **Mitigation Measure 4.12-2**, and **Mitigation Measure 4.12-3b** identify improvements that would improve operations on these facilities; however, impacts would remain significant and unavoidable because the needed improvements are not under the jurisdiction of the City of American Canyon or because no feasible improvements are available. For these reasons, impacts to facilities addressed in congestion management plans would be significant and unavoidable.

Implementation of potential mitigation measures, such as the SR 29 widening, the Soscol flyover ramp, or the interchange at SR 12 (described in the impact discussions for 4.12-1 and 4.12-2), would require approval, funding, and implementation by other jurisdictions and agencies and

could not be implemented by the City of American Canyon alone. Consequently, the implementation of these potential mitigation measures is uncertain and the impact remains significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Air Traffic Patterns

Impact 4.12-5: The proposed Project would not change air traffic patterns associated with the Napa County Airport. (Less than Significant)

As discussed in Impact 4.8-2 in Section 4.8, *Land Use*, the proposed Project's end uses are within the range of acceptable development and land use activities set forth in the Napa County Airport Land Use Compatibility Plan (ALUCP). The Project site falls within Zone D and E of the Napa County ALUCP. Zone D is identified as Common Traffic Pattern and is routinely overflown by aircraft operating to and from the Napa County airport at altitudes ranging from 1,000 feet to as low as 300 feet above ground. Due to noise and hazard concerns, residential uses are not permitted in Zone D. Zone E is identified as Other Airport Environs within which aircraft overflights may occur during busy traffic hours and when larger aircraft are taking off or landing. Zone E has a low accident risk and the primary impact in this zone is overflight annoyance. Zone E allows all uses except noise sensitive outdoor uses. The proposed Project is consistent with the requirements of the Napa County ALUCP as no residences are located within Zone D, and the Project does not include any noise sensitive outdoor uses that would be prohibited in Zone E. In fact, in its February 20, 2015, comment letter on the Notice of Preparation for the Watson Ranch Specific Plan EIR, the Napa County Planning, Building and Environmental Services Department, acting both from the perspective of Napa County Planning and the County Airport Land Use Commission, stated that "It appears that the project has been designed to avoid placement of residential uses within Land Use Compatibility Zone D as stipulated in the compatibility plan." Further, the Project has been designed to be compatible with Title 11 (Airports), Chapter 11.2 (Height Limitations and Use Restrictions) of the Napa County Municipal Code, which have been established to reduce flight hazards caused by physical obstructions. The Project would also not include any sources of smoke, glare, distracting lights, or electrical interference that could interfere with or alter air traffic patterns. Lastly, prior to Project approval, all proposed development plans would be submitted to the ALUC for review of compliance with the ALUCP as a part of their land use approval authority. Therefore, considering existing regulatory requirements imposed by 49 CFR Part 77 (Obstructions to Navigation) and review by the ALUC, potential adverse hazard impacts related to the proposed Project are considered less than significant.

Mitigation: None required.

Roadway Safety

Impact 4.12-6: The proposed Project would not increase hazards due to a design feature or incompatible uses. (Less than Significant)

This impact addresses whether the proposed Project would substantially increase hazards due to a design feature or incompatible uses. Relevant topics include the potential to increase traffic collision frequency, introduce access and circulation patterns inconsistent with General Plan policies or would otherwise interfere with traffic flow, and create unsafe conditions for vehicles, pedestrians, or bicyclists at at-grade railroad grade crossings.

Traffic Collision Analysis

Traffic collision data were collected from the California Highway Patrol Statewide Integrated Traffic Records System (SWITRS) for all study intersections associated with the Project. Traffic collision data covered the period from January 1, 2011 to December 31, 2013 – the most recent 3 years of available data. It was noted that some of the 2013 collisions may not have been finalized in the system as this process often takes a few months. Therefore, the data reflects complete 2011 and 2012 data, but incomplete 2013 data.

As shown in **Table 4.12-13**, between 2011 and 2013 there were 669 collisions at study intersections. These collisions resulted in 475 injuries and one death. Six collisions involving pedestrians and 12 involving bicycles were recorded.

Trends were identified by observing the patterns within two different categories of collision: Primary Collision Factor (PCF), and Type of Collision (TOC). The dominant PCF was “unsafe speed”, which was cited in 58 percent of all collisions. Of these collisions, 90 percent resulted in a TOC of “rear-end.” These results are not unexpected given the nature of the surrounding roadway network, which are primarily arterials (often divided highways) that serve through traffic.

Four factors were investigated in further detail to determine any trends at the intersection level. These factors are type of collision, primary collision factor, weather, and lighting. This investigation yielded trends that are presented below.

At SR 29 and Mini Drive (#13), nine of the 29 collisions were assigned a primary collision factor violation category of “traffic signals and signs.” Six of the nine involved northbound travel; the remaining three have no direction reported. Inadequate signal head design for the northbound direction may be a potential contributor to collisions. Of the nine collisions, seven caused broadside collisions. Three of these featured a bicycle injury, of which two were severe injuries with the cyclist reported to be at fault in both cases through violation of traffic control devices. Mini Drive is the only east-west crossing connecting two residential neighborhoods. The nearest crossing to the north is 4,200 feet away and there is not a nearby crossing to the south. Mini Drive does not currently have any bicycle-specific accommodations, and this may be a potential contributor to collisions at this location.

TABLE 4.12-13
COLLISION ANALYSIS DATA

#	Intersection	Number of Collisions	Fatalities	Injured Persons	Collisions Involving Pedestrians	Collisions Involving Bicyclists
1	SR 29 / SR 12 / SR 121	27	0	23	0	0
2	SR 29 / SR 12 / SR 221 / Soscol Ferry Road	143	0	88	1	0
3	SR 29 / SR 12 / Airport Boulevard	73	0	49	0	0
4	SR 29 / South Kelly Road	1	0	0	0	0
5	SR 29 / Green Island Road / Paoli Loop Road	12	0	4	0	0
6	SR 29 / Napa Junction Road	28	0	18	0	0
7	SR 29 / Eucalyptus Drive	20	0	20	0	0
8	SR 29 / Rio Del Mar	36	0	33	1	0
9	SR 29 / South Napa Junction Road / Poco Way	35	0	24	0	0
10	SR 29 / Donaldson Way	28	0	18	0	2
11	SR 29 / American Canyon Road	51	0	37	0	2
12	SR 29 / Mini Drive	29	0	34	0	4
13	SR 29 / Meadows Drive	27	0	33	0	0
14	SR 29 / SR 37 Westbound On-Ramp[1]	65	1	37	0	0
15	SR 29 / SR 37 Eastbound Ramps / Lewis Brown Drive[2]	11	0	8	0	0
16	Paoli Loop Road / Green Island Road	1	0	0	0	0
17	Shenandoah Drive / Donaldson Way	1	0	1	0	1
18	Newell Drive / Donaldson Way	1	0	0	0	0
19	Newell Drive / Silver Oak Trail	2	0	1	1	0
20	Broadway Street / Silver Oak Trail / American Canyon Road	0	0	0	0	0
21	Newell Drive / American Canyon Road	8	0	4	0	2
22	Via Firenze / American Canyon Road	1	0	0	0	0
23	Fairgrounds Drive / Flosden Road / Corcoran Avenue	11	0	8	2	0
24	Fairgrounds Drive / SR 37 Westbound Ramps[3]	58	0	35	1	1
25	Fairgrounds Drive / SR 37 Eastbound Ramps[3]					
	Total	**669**	**1**	**475**	**6**	**12**

NOTES:

[1] All collisions at interchange of SR 37 and SR 29 are included, as it was not possible to isolate intersections at the eastbound on-ramp.

[2] Includes all collisions where Lewis Brown Drive was indicated as a primary or secondary street. Does not include instances where Lewis Brown Drive was not indicated as a primary or secondary street.

[3] All collisions at interchange of SR 37 and Fairgrounds Drive are included, as it was not possible to isolate intersections at the eastbound or westbound ramps.

SOURCE: California Highway Patrol Statewide Integrated Traffic Records System (SWITRS), 2011-2013.

The current plans for widening SR 29 would provide additional pedestrian treatments to help pedestrians safely cross SR 29. Additionally, the mitigation measures that remove at-grade intersections (like those for intersections #2 and #3) would eliminate existing conflicts and/or provide new facilities for pedestrians and bicyclists. Overall, the Project would not result in new potential conflicts for vehicles, would not result in new potential conflicts for pedestrians and bicyclists with vehicles, and would not exacerbate a current unsafe condition for pedestrians or bicyclists. Impacts would be less-than-significant.

Mitigation: None required.

Site Plan and Circulation Review

Vehicle access throughout the Project site would be provided via Newell Drive, Rio Del Mar, and Rolling Hills Drive. The proposed Project presents a circulation system that encompasses a network designed for an array of transportation modes. The circulation system promotes "complete streets" principles, creating a complete system of roadways that make sense in the context of land uses they serve while accommodating all modes of transportation. A hierarchy of streets, walkways, and trails throughout the development area provides a layered network that would allow vehicles to flow smoothly and safely within the community, while also creating a rich and vital pedestrian environment. The following street design standards are proposed to be utilized for construction of streets within the Project site. Specific location and extent of use will be subject to subsequent review of tentative subdivision maps and design permits.

- **Four-lane and Two-lane Arterials:** South of Rio Del Mar, Newell Drive would consist of two 12- to 13-foot wide vehicular travel lanes in each direction, separated by a 12-foot landscaped median. Five-foot wide bike lanes would be located next to the outside curbs, adjacent to a six-foot wide landscaped area and an eight-foot wide sidewalk on the edge of the right-of-way. North of Rio Del Mar, Newell Drive would consist of one 13-foot wide vehicular travel lane in each direction, separated by a 36-foot wide landscaped median. The remaining cross-section remains the same: five-foot wide bike lanes would be located next to the outside curbs, adjacent to a six-foot landscaped area and an eight-foot sidewalk on the edge of the right-of-way.

- **Modified Major Collector:** The Rio Del Mar extension would consist of one 12-foot wide vehicular travel lane in each direction, with a median/turn lane separation. An eight-foot wide landscaped area and an eight-foot wide sidewalk would be located on the north side of the vehicle travel way. The River to Ridge Regional Trail would be ten feet wide and located along the south side of Rio Del Mar. An eight-foot wide parallel parking lane would be provided on the north side of the vehicle travel way, while an 18.5-foot wide angled parking lane would be provided on the south side.

- **Minor Collectors:** Minor collectors serve as a looped connection between Newell Drive and Rio Del Mar. They would consist of one 12-foot wide vehicular travel lane in each direction, with no median separation. Five-foot wide bike lanes would be located next to an eight-foot wide parking lane adjacent to the outside curbs. A six-foot wide landscaped area and a six-foot wide sidewalk would bookend the vehicle travel way.

- **Local Streets (Residential):** Local residential streets connect to the minor collectors and Rio Del Mar to serve as the final connections to the dwelling units in the higher density

areas of the proposed Project. They would consist of one 12-foot wide vehicular travel lane in each direction, with no median separation. No bicycle facility is proposed, but an eight-foot wide parking lane adjacent to the outside curbs would be provided. A six-foot wide landscaped area and a six-foot wide sidewalk would bookend the vehicle travel way. Connections of proposed local streets to existing local streets would include Rolling Hills Drive.

The following modified local street types are proposed to be used in certain neighborhoods within the Project site, responding to specific conditions or product types. As noted above, these are proposed as part of the proposed Project for use in certain circumstances and under certain conditions. All modified road sections will be reviewed and approved as part of the subsequent tentative map review and approval.

- **Modified Local Street A (Residential):** These residential streets connect to the minor collectors to serve as the final connections to the dwelling units in the lower density areas of the proposed Project. They would consist of one ten-foot wide vehicular travel lane in each direction, with no median separation. No bicycle facility is proposed, but an eight-foot wide parking lane adjacent to the outside curbs would be provided. A six-foot landscaped area and a five-foot sidewalk would bookend the vehicle travel way.

- **Modified Local Street B (Residential):** These residential streets typically dead-end and provide a more urban character in the higher density areas of the proposed Project. They would consist of one 12-foot wide vehicular travel lane in each direction, with no median separation. No bicycle facility or on-street parking is proposed. A six-foot wide landscaped area and a five-foot wide sidewalk would bookend the vehicle travel way. Guest parking would be provided in driveway aprons or designated perpendicular bays.

- **Cul-de-Sac (Residential):** The cul-de-sac is utilized at the end of a residential street primarily to serve as a turn around. No on-street parking or bicycle facilities would be provided. A six-foot wide sidewalk that is separated by a six-foot wide landscaped area would be provided along the curbs of the cul-de-sac.

- **Residential Alleys:** These would be generally located behind residential lots and provide service access and resident vehicular access to garages. The alleys would have a 20-foot wide travel way serving two directions of vehicle traffic.

A proposed extension of the Napa Valley Vine Trail through the Plan Area and connecting with the existing Newell Open Space Trail on the south end of the Project would provide a continuous multi-use path through the site. As noted above, the River to Ridge Trail, another regional trail, would connect through the Plan Area along Rio Del Mar. The planned grid network is appropriately layered to provide access to, from, and within the Project site.

While not required to reduce or eliminate a CEQA impact, the following two site plan and circulation improvements should be considered as part of the final design for the proposed Project:

- In areas with five-foot bike lanes next to an eight-foot parking area, the Project Applicant should consider a rearrangement of the dimensions or the locations. Vehicles could adequately utilize a seven-foot parking area, allowing the bicycle lanes to be six feet wide

and provide an enhanced experience for cyclists. Additionally, parking could be provided next to the vehicle travel lanes, with the bicycle lanes provided next to the curb. This should be carefully considered in the context of any drainage inlets located along the curbs, and a buffer would likely need to be provided. Some portion of the landscaped space separating the sidewalk from the current parking area could also be reapportioned for the bicycle facilities.

- In areas with ten-foot lanes or 20-foot travel lanes, the Project Applicant should conduct detailed studies once plans are developed to ensure that service vehicles can make all the necessary turns. These include garbage and recycling trucks, as well as larger delivery (e.g. UPS) trucks. A detailed assessment of the circulation plan for the mixed-use (non-residential) area should be conducted once detailed plans are developed. Lastly, a detailed evaluation of the school circulation plan, including pick-up and drop-off locations and periods, should be conducted once a site plan is developed and submitted to the City for review and approval.

With appropriate treatments at the Rio Del Mar intersections at SR 29 and Newell Drive, the Project would not result in interference with traffic flow on public streets at site access driveways, would not result in insufficient or inadequate accessibility for delivery or service vehicles that would interfere with traffic flow, and would not result in circulation patterns that are inconsistent with General Plan policies. Impacts would be less than significant.

Mitigation: None required.

Railroad Crossings

Rio Del Mar, the primary road serving the Project site, would be built with a grade-separated undercrossing of the Napa Branch Line on the western boundary of the Project site. As such, Project-related traffic using Rio Del Mar would not cross the Napa Branch Line at-grade. This precludes the possibility of the proposed Project exacerbating any existing grade crossing safety issues.

There is an existing at-grade crossing at South Napa Junction Road. There is also an approved permit for improving the at-grade crossing for a two lane road for which the City has filed an extension pending the completion of the Watson Ranch Specific Plan and EIR. South Napa Junction Road is designated in the City's General Plan Circulation Element as a Major Collector, providing access to the Project site. However, the Project proposes an amendment to the Circulation Element, relocating that Major Collector designation to the Rio Del Mar alignment and intersection with SR 29. With the proposed Rio Del Mar under crossing and the at-grade crossing at South Napa Junction would be used for local street access to the site, affording another point of connection into the NVR&G mixed use area of the Project. The use of the South Napa Junction at-grade crossing would be subject to the extension and approval of the at-grade crossing permit by the Public Utilities Commission, which would enhance the crossing safety features and preclude the Project from exacerbating any existing grade crossing safety issues.

Watson Lane currently has an at-grade railroad crossing that terminates at the northwest corner of the Project site. Watson Lane is a low-volume road that serves only local traffic and the

proposed Project would not contribute any additional trips because it would not connect to the proposed street network. Therefore, the proposed Project is not expected to increase hazardous conditions for vehicles, bicyclists, or pedestrians at the Watson Lane railroad crossing.

In summary, the proposed Project would not increase any existing grade crossing safety issues in the Project vicinity. CPUC approval would be required to modify any of the existing railroad spurs, as well as and modifications to existing public railroad grade crossings, if necessary. Impacts would be less than significant.

Mitigation: None required.

Emergency Response

Impact 4.12-7: The proposed Project would provide adequate emergency access. (Less than Significant)

The proposed Project would provide several vehicular access points: primary access points on Rio Del Mar and the Newell Drive Extension, and secondary access points on Rolling Hills Drive and Summerwood Drive. All access points would be accessible to large emergency vehicles such as fire engines. This would comply with California Fire Code requirements for provision of at least two access points. Therefore, no significant emergency access impacts would occur with the Project. Impacts would be less than significant.

Mitigation: None required.

Public Transit, Bicycles, and Pedestrians

Impact 4.12-8: The proposed Project could conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities; however, implementation of the identified mitigation measures would reduce impacts to a less-than-significant level. (Less than Significant with Mitigation)

This impact would address whether the proposed Project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Each topic is addressed separately.

Public Transit

The Project is located adjacent to VINE Route 11 and ACT bus stops operating along SR 29 and Donaldson Way. Although the increase in passenger demand is not expected to exceed capacity, enhancements to existing service are recommended to encourage transit use. For example, the City can support transit usage by Project residents by modifying the ACT route to directly access

the Project site. Additionally, encouraging amenities such as seating, lighting, and signage at bus stops to increase rider comfort and safety could be added.

Potential Project impacts associated with increased vehicle delay at intersections includes an increase to transit vehicle delay because transit vehicles operate in mixed-flow lanes with other vehicles. Intersection capacity improvements associated with mitigation measures **Mitigation Measure 4.12-1c** (SR 29 / SR 12 / SR 121) and **Mitigation Measure 4.12-2** (SR 29 / South Kelly Road) would also benefit transit vehicles. In particular, improvements along Donaldson Way, Newell Drive, and Rio Del Mar could help improve transit performance. None of the existing transit routes are near or over capacity, and new transit trips generated by the Project are not expected to affect these services. The Project increase in transit demand could be adequately accommodated by local transit operators. Any impacts to the transit facilities are projected to be less than significant.

Bicycles

The Project does not conflict with existing or planned bicycle facilities, and no modifications to offsite bicycle facilities are proposed. The Project would increase bicycle demand by providing additional trail connections and should ensure appropriate bicycle accommodations are provided for employees and visitors of the proposed mixed-use area. Specifically, the Project would construct a segment of the proposed River to Ridge Trail along the south side of Rio Del Mar through the full extent of the Project site, as well as a segment of the proposed Napa Valley Vine Trail mostly following the existing gas easement line through the full extent of the Project site. The City does not have a requirement for bicycle parking, though jurisdictions throughout the North Bay require anywhere from two to ten percent of vehicle parking to provide bicycle parking. The proposed Project includes a requirement for bike racks at 10 percent of the vehicle parking for bicycles in class II, minimum 2 bike capacity racks (see section 6.4.3).

In the mixed-use retail area, this would include as many as 35 bicycle parking spaces, which should be located in manner to serve the retail, restaurant, and hotel uses. While not required to reduce or eliminate a CEQA impact, additional bicycle parking should be provided for the event space and amphitheater. These spaces should be conveniently located to building entrances for guests and employees. The Project Applicant should ensure that Class I long-term bicycle parking (such as lockers or a secured room be provided for employee use) and Class II short-term bicycle parking racks (such as an inverted U-style bicycle parking rack) racks are integrated into the final site design.

The Project would not result in potential conflicts for bicyclists, would provide adequate bicycle access, and would not result in potential internal circulation conflicts for bicyclists and motorists. Any impacts to the bicycle facilities are projected to be less than significant.

Pedestrians

Pedestrian circulation is facilitated by sidewalks, walking paths, and trails within and around the Project site. Well-designed pedestrian facilities are continuous, accessible to all users, and integrated with the surrounding environment to connect a project to external destinations.

Though the Project is not anticipated to attract much pedestrian traffic from outside the Project, the boundaries of the site have been designed to provide this access. Rio Del Mar, Newell Drive, and Rolling Hills Drive, as well as trail connections at the boundaries of the Project site, provide direct and safe access for pedestrians offsite. Demand from the area north of the Project is unlikely and pedestrians could use the proposed Vine Trail connection for access. The generation of pedestrian traffic from outside of the Project site should not impact vehicle operations or pedestrians. No other offsite pedestrian improvements are proposed.

The Project would not result in potential conflicts for pedestrians, would provide adequate pedestrian access, and would not result in potential internal circulation conflicts for pedestrians and motorists. Any impacts to offsite pedestrian facilities are projected to be less than significant.

As mentioned above, the internal transportation network has been designed to accommodate all modes, including pedestrians. All major streets have sidewalks buffered by landscaping. Several internal trails would connect to existing and planned trails at the boundaries of the Project. Crosswalks would be clearly marked across roadway connections along Rio Del Mar and Newell Drive.

While not required to reduce or eliminate a CEQA impact, the following internal pedestrian facility improvement should be considered as part of the final design for the proposed Project:

- In the mixed-use portion of the Project and near the school, there is potential for significant pedestrian volumes during certain periods of the day. Therefore, to accommodate these high pedestrian volumes, it is recommended that the Project Applicant consider certain pedestrian crossings for enhancements, such as high visibility crosswalks, corner bulbouts, and signage. These improvements should meet ADA requirements.

The Project would not result in potential conflicts for pedestrians, would provide adequate pedestrian access, and would not result in potential internal circulation conflicts for pedestrians and motorists. Any impacts to onsite pedestrian facilities are projected to be less than significant.

Significance after Mitigation: Less than Significant.

Project Construction Analysis

Impact 4.12-9: Construction activities associated with the Project could result in temporary increases in traffic volumes on area roadways during construction; however, implementation of the identified mitigation measures would reduce impacts to a less-than-significant level. (Less than Significant with Mitigation)

Traffic due to construction would be temporary, substantially less than the amount generated by the Project once constructed and operational, and would vary throughout the phases of construction. Construction staging would occur primarily on site and would not be expected to disrupt access to nearby uses. No major road closures are anticipated. Construction truck traffic

would result in short-term increases in traffic volumes and would occur throughout the day. In order to mitigate the potential impact to traffic near the Project site, the Project Applicant will develop a Construction Management Plan (CMP) to ensure that truck routing, coordination with other construction in the area, and potential pavement impacts are addressed.

Mitigation Measure 4.12-9: *Construction Management Plan*. The Project Applicant shall develop and submit a Construction Management Plan (CMP) to the City of American Canyon prior to commencement of any construction activities, including construction activities associated with the transportation mitigation measures. The provisions of a CMP shall specifically address the characteristics of construction-related traffic associated with development. Such plans identify construction phasing and the level and type of construction-related traffic. The CMP shall identify construction truck routes to access the Project site, lane closures on existing public streets (if needed) including a plan for any necessary traffic control measures, and onsite staging requirements, and other information as required by the City.

Once the construction truck routes have been approved, but before construction has started, the Project Applicant shall conduct a survey of existing conditions of pavement along the approved truck routes and submit documentation of the results to the City. When construction has been substantially completed such that there would be no further construction truck trips, the Project Applicant shall re-survey the construction truck routes. The Project Applicant shall be responsible for repairing damage to roadways used for construction vehicle access to the site and attributable to the Project so that the roadway conditions are returned to their pre-construction conditions (or better) as documented in the pre-construction survey along the truck routes following the construction of the Project.

Significance after Mitigation: Less than Significant.

Cumulative Impacts

A cumulative impact analysis is provided for the following thresholds in Section 4.12.4, *Impacts and Mitigation Measures*:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit (refer to Impact 4.12-3).
- Conflict with an applicable congestion management program, including but not limited to LOS standards and travel demand measures, or other standards established by the congestion management agency for designated roads or highways (refer to Impact 4.12-4).

For the following thresholds, a cumulative impact analysis is provided in this section:

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Change in Air Traffic Patterns

The proposed Project, in conjunction with past, present, and reasonably foreseeable future uses, would not contribute to cumulative impacts on air traffic patterns associated with Napa County Airport because all cumulative development has been and would be required to comply with existing requirements outlined in Title 11 (Airports), Chapter 11.2 (Height Limitations and Use Restrictions) of Napa County Municipal Code and 49 CFR Part 77 (Obstructions to Navigation). Further, prior to Project approval for any development that is subject to the ALUCP, all proposed development plans have been submitted to the ALUC for review of compliance with the ALUCP as a part of their land use approval authority. Therefore, considering the existing regulatory requirements and review by the ALUC, the proposed Project, in conjunction with other cumulative development, would not have a significant cumulative impact associated with a change in air traffic patterns, and the Project's cumulative impact would be less than significant.

Increase in Hazards Due to a Design Feature or Incompatible Use

Potential hazards from design features or incompatible uses are location specific (e.g., internal parking layout, driveway design) and would not combine with other past, present, or reasonably foreseeable projects. The proposed Project and other past, present, and reasonably foreseeable future projects must comply with local requirements for site access and design during the tentative subdivision map stage and/or the design permit process, which includes land use, circulation, and site access requirement that are specifically intended to avoid or reduce hazards from project design or location of incompatible uses. Therefore, the proposed Project, in conjunction with other cumulative development, would not have a significant cumulative impact associated with an increase in hazards due to a design feature or incompatible use, and the Project's cumulative impact would be less than significant.

Emergency Access

The provision of adequate emergency access is site specific and would not would not combine with other past, present, or reasonably foreseeable projects. The proposed project and other past, present, and reasonably foreseeable future projects have must comply with requirements for emergency access, such as providing several vehicular access points and roadways of

sufficient width to allow access and circulation by large emergency vehicles, such as fire engines. Therefore, the proposed Project, in conjunction with other cumulative development, would not have a significant cumulative impact associated with emergency access, and the Project's cumulative impact would be less than significant.

Conflicts with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities

The proposed Project and other past, present, and reasonably foreseeable future projects have been and would be reviewed by the City to ensure that any potential conflict with policies, plans, or programs related to public transit, bicycle or pedestrian facilities either do not occur or are resolved through adjustments to project plans such that transit stops and amenities (i.e., seating, lighting, and signage at bus stops to increase rider comfort and safety), bicycle paths and facilities (i.e., bicycle parking areas), and pedestrian opportunities (i.e., sidewalks, walking paths, and trails) are provided. Therefore, the proposed Project, in conjunction with other cumulative development, would not have a significant cumulative impact associated with conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, and the Project's cumulative impact would be less than significant.

4.12.5 References – Transportation and Traffic

Fehr & Peers. 2016. *Watson Ranch Specific Plan Transportation Impact Study*, prepared for City of American Canyon. June 2016. (Appendix J.1 and J.2)