

5.0 GROWTH INDUCING AND CUMULATIVE IMPACTS

5.1 GROWTH INDUCING IMPACTS

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) evaluate the “growth-inducing” effects of a proposed project. According to Section 15126.2(d) of the *CEQA Guidelines*, growth-inducing effects include:

- Fostering economic or population growth, or the construction of additional housing
- Removing obstacles to population growth
- Taxing existing community services or facilities, requiring the construction of new facilities that could cause significant environmental effects
- Encouraging and facilitating other activities that could significantly affect the environment, either individually or cumulatively

A project can directly or indirectly induce growth. Construction of new housing would directly induce growth. However, if a project creates substantial new permanent employment opportunities, it could indirectly induce growth by stimulating the need for additional housing and services to support the new employment demand. It could also indirectly induce growth by removing infrastructure limitations or regulatory constraints on a required public service, such as roads or water service.

Section 15126.2(d) also states that it must not be assumed that growth in any area is necessarily beneficial, detrimental or of little significance to the environment. However, it should be noted that growth can be detrimental if it is not consistent with land use plans and growth management policies established to ensure orderly growth and development that is supported by adequate public services. Should a proposed project induce growth beyond planned levels or rates or exceed reliable population projections, it could indirectly cause additional adverse impacts on the environment and public services beyond those identified, mitigated or acknowledged in local planning documents. Therefore, this growth inducement analysis evaluates the consistency of the growth caused or induced by the proposed project with the growth envisioned for the Nevada County General Plan and by the City of Grass Valley 2020 General Plan.

5.1.1 FOSTER ECONOMIC GROWTH

The proposed project would provide opportunities for new high density residential units within the unincorporated areas of Nevada County and some areas of the Grass Valley SOI area. The purpose of creating the RH Overlay zone is to provide high density housing opportunities to meet existing and proposed growth demands for affordable housing. The implementation of the proposed overlay area would allow up to a maximum yield of 2,680 high density residential units. The development and timing of these units would depend on demand for this type of housing and other market conditions that would make construction feasible.

While the project would generate some short-term construction opportunities during development on the project sites, any construction jobs would be short-term and would cease upon completion of the project. The development of housing on these sites would not

generate any direct or indirect long term employment opportunities. Therefore, the proposed project is not anticipated to foster economic growth beyond what has been anticipated in the Nevada County General Plan or the City of Grass Valley General Plan.

5.1.2 POPULATION AND HOUSING GROWTH

The analysis of cumulative population and growth impacts considers the larger context of future development of the County and City as envisioned by their General Plans and relies upon the projections of those plans. Future development under the proposed project and the County of Nevada and City of Grass Valley General Plans, together with approved and proposed projects, would result in an increased population and the need for additional housing.

As described above, the project's estimated population of 2,960 residents in Grass Valley and 2,438 residents in Nevada County represents approximately 13 percent of the City's and 28 percent of the County's anticipated population growth and would occur over a 10- to 20-year timeframe. As such, the proposed project would result in an increase in population and growth estimates over what was identified in the General Plan. However, the proposed project would be developed to accommodate future population demand and most importantly, the need for affordable housing in the area.

5.1.3 REMOVE OBSTACLES TO GROWTH

Several types of projects can induce population growth by removing obstacles that prevent growth. An example of this type of project would be the expansion of a wastewater treatment plant, which would accommodate additional sewer connections within the service area and, therefore, would allow future construction and growth.

Some sections of the County's existing wastewater treatment system would be unable to accommodate the anticipated wastewater generation from some of the project sites, requiring upgrades prior to development in those areas. In addition, new road improvements would be required to address constrained traffic intersections. Increased traffic capacity on some roadways may result in additional development becoming feasible because needed roadway improvements are in place. The expansion of infrastructure needed for the proposed project may remove barriers that currently inhibit growth within the project area and would result in the potential impacts discussed throughout this EIR, but anticipated within the County General Plan and the City's 2020 General Plan.

5.1.4 CONCLUSION

The proposed project would foster limited economic growth by providing short-term construction opportunities within the unincorporated County and within the Grass Valley SOI. It would also directly induce population growth through the construction of new housing units. Finally, it would remove obstacles to growth by expanding infrastructure to the project area. Regardless, the opportunities to provide a housing mix that includes high density housing created by the project would be consistent with the County's desire to create a healthy economic base for the community, and the project's potential increase in population would be within the County and City of Grass Valley population estimates for its future. Finally, the obstacles to growth removed by the project would be necessary to accommodate the proposed housing opportunities. Nonetheless, no growth-related impacts beyond the environmental impacts discussed in Chapter 4 of this EIR are anticipated.

5.2 CUMULATIVE IMPACTS

Section 15130 of the *CEQA Guidelines* requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where the incremental effect of a project is not "cumulatively considerable," a lead agency need not consider that effect significant, but must briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. A cumulative impact is created as a result of the combination of the project evaluated in the EIR together with other reasonably foreseeable projects causing related impacts. Cumulative impacts analyses are included in Sections 4.2 through 4.15 in their entirety and are summarized below.

In the case of a planning document such as a Housing Element Rezone Implementation Program, cumulative effects occur from development under the proposed project combined with effects of development on lands around the City and region. In each section of Chapter 4 and below, the cumulative impacts of the proposed project take into account growth projected by the County General Plan and the Grass Valley 2020 General Plan, in combination with impacts from other recently approved and reasonably foreseeable projects. Cumulative impacts may occur over different geographic areas. The geographic area considered for each cumulative impact depends upon the impact that is being analyzed. For example, in assessing air quality impacts, all development within the air basin contributes to regional emissions of criteria pollutants, and basin wide projections of emissions are the best tool for determining the cumulative effect. Table 5-1, *Cumulative Projects Considered*, lists the approved, but not yet constructed cumulative projects within the Cumulative Study Area. Table 5-2, *Geographic Areas for Cumulative Impact Analysis*, provides a summary of the different geographic areas used to evaluate each cumulative impact. Each of the projects and its relative location to the proposed project sites is shown in Figure 5-1, *Cumulative Project Locations Map*.

5.2.1 LAND USE AND PLANNING

The analysis of cumulative land use and planning impacts considers the larger context of future development of Nevada County and City of Grass Valley as envisioned by their respective General Plans and relies upon the projections of those plans and associated EIRs. Cumulative land use impacts would result from incremental changes in land use that cause substantial disruption within the established community or conflicts with adopted plans and policies related to avoidance or mitigation of environmental effects. Currently, the proposed project sites are mainly undeveloped. The area surrounding the site is either developed with low to medium density residential uses or business and industrial parks.

Both the Nevada County General Plan and the City of Grass Valley's 2020 General Plan EIR analyzed the long-term development in the region and found that no significant impacts relative to land use and planning would occur with implementation of these plans. Both the County General Plan and the City 2020 General Plan anticipate future development of the proposed project areas. However, the proposed project would increase the allowable number of residential units through the rezoning of existing commercial and industrial land uses compared to the projections of the Nevada County General Plan and the City's 2020 General Plan and 2020 General Plan EIR. Thus, the proposed project would potentially allow more population growth and reduce job-generating uses compared to the projections of those plans. Nonetheless, these changes would not cause substantial disruption within the established community or conflicts with adopted plans and policies related to avoidance or mitigation of environmental effects for the County of Nevada. However, the proposed change in land use

density to high density residential (20 dwelling units per acre) within the Grass Valley Sphere of Influence would conflict with the City’s existing medium density (4-8 dwelling units per acre) and mixed use density land use designations because the proposed density is higher. Although mitigation is included that would require the County and City of Grass Valley to develop an agreement to address proposed density changes, the conflicts would remain significant until there was a change in the Grass Valley General Plan. Other projects within the cumulative study area would have to address their own consistency with the City’s General Plan densities and land use policies. Changes proposed by other projects within the Grass Valley Sphere of Influence would be required to address any land use conflicts with the General Plan. No potential conflicts with other projects that would result in cumulatively considerable land use conflicts have been identified.

**Table 5-1
 Cumulative Projects Considered**

Project Name	Type of Development	Number of Units or Square Footage	Status	Distance from Project Area
Grass Valley SOI				
Sierra Terrace	Single Family Detached Homes Residential Condo/Townhouse Apartment	14 Units 8 Units 14 Units	Approved	Approximately 1.5 miles from Sites 3-9 in Grass Valley
Makiah Woods	Single Family Detached Homes	49 Units	Approved	Adjacent to Site 6
Gold Country Village	Senior Housing	175 Units	Approved	Approximately 1 mile from Sites 3-9 in Grass Valley
314 Railroad Avenue	General Office	27,596 SF	Approved	Approximately 1.2 miles from Sites 3-9 in Grass Valley
Ridge Meadows	Single Family Detached Homes	49 Units	Approved	Approximately 2 miles from Sites 3-9 in Grass Valley
Ridge Village	Single Family Detached Homes	55 Units	Approved	Approximately 2 miles from Sites 3-9 in Grass Valley
Loma Rica	Mixed Use – Residential, Commercial, Business Park, Open Space	700 Low, Medium and High Density Residential Units; 54,000 SF of Mixed Commercial and Retail; maximum 364,161 SF Business and Light Industrial; 313.9 Acres of Open Space, Parks and Farmland	Approved	Adjacent to Sites 3, 7, and 9 in Grass Valley
Wolf Creek Village	Single Family Detached Homes	40 Units	Approved	Approximately 0.5 miles from Site 2 in Grass Valley
Berriman Ranch	Single Family Detached Homes	121 Units	Approved	Approximately 0.25 miles from Site 2 in Grass Valley
Village at South Auburn	Single Family Detached Homes Retail / Office	49 Units 23,264 SF	Approved	Approximately 0.5 miles from Site 2 in Grass Valley
Milco II	Light Industrial	57,315 SF	Approved	Approximately 0.8 miles from Sites 3-9 in Grass Valley
Victoria Grove	Single Family Detached Homes	72 Units	Approved	Approximately 0.6 miles from Site 2 in Grass Valley

Table 5-1, continued

Project Name	Type of Development	Number of Units or Square Footage	Status	Distance from Project Area
Grass Valley SOI				
Bear River Mill Site SDA	Single Family Detached Homes Residential Condo /Townhouses Light Industrial Commercial, and Business Park	420 Acres	Notice of Preparation	Includes Site 2 and surrounding SOI Area
Dorsey Drive Interchange	Roadway Improvements	N/A	Approved	Intersection of Dorsey Drive and State Route (SR) 20/49
Penn Valley Area				
PV Oaks	Commercial Single Family Detached Homes	12,100 SF 19 Units	Approved	Same location as Site 11
Lake of the Pines Area				
Higgins Marketplace	Specialty Retail Supermarket Fast Food Office	19,700 SF 59,800 SF 7,000 SF 41,100 SF	Approved	Adjacent to Sites 15 and 16
Bear River Plaza	General Office/ Specialty Retail Multi-Family Residential	40,000 SF 28 Units	Approved	Approximately 0.2 miles east of Site 17 in Lake of the Pines Area
HBT – Cascade Crossing	Single Family Detached Homes	80 Units	Approved	Approximately 0.1 miles west of Site 17 in Lake of the Pines Area
Rincon Del Rio	Single Family Attached and Detached Retirement Homes	345 Units	Approved	Approximately 2.7 miles south of Site 14.

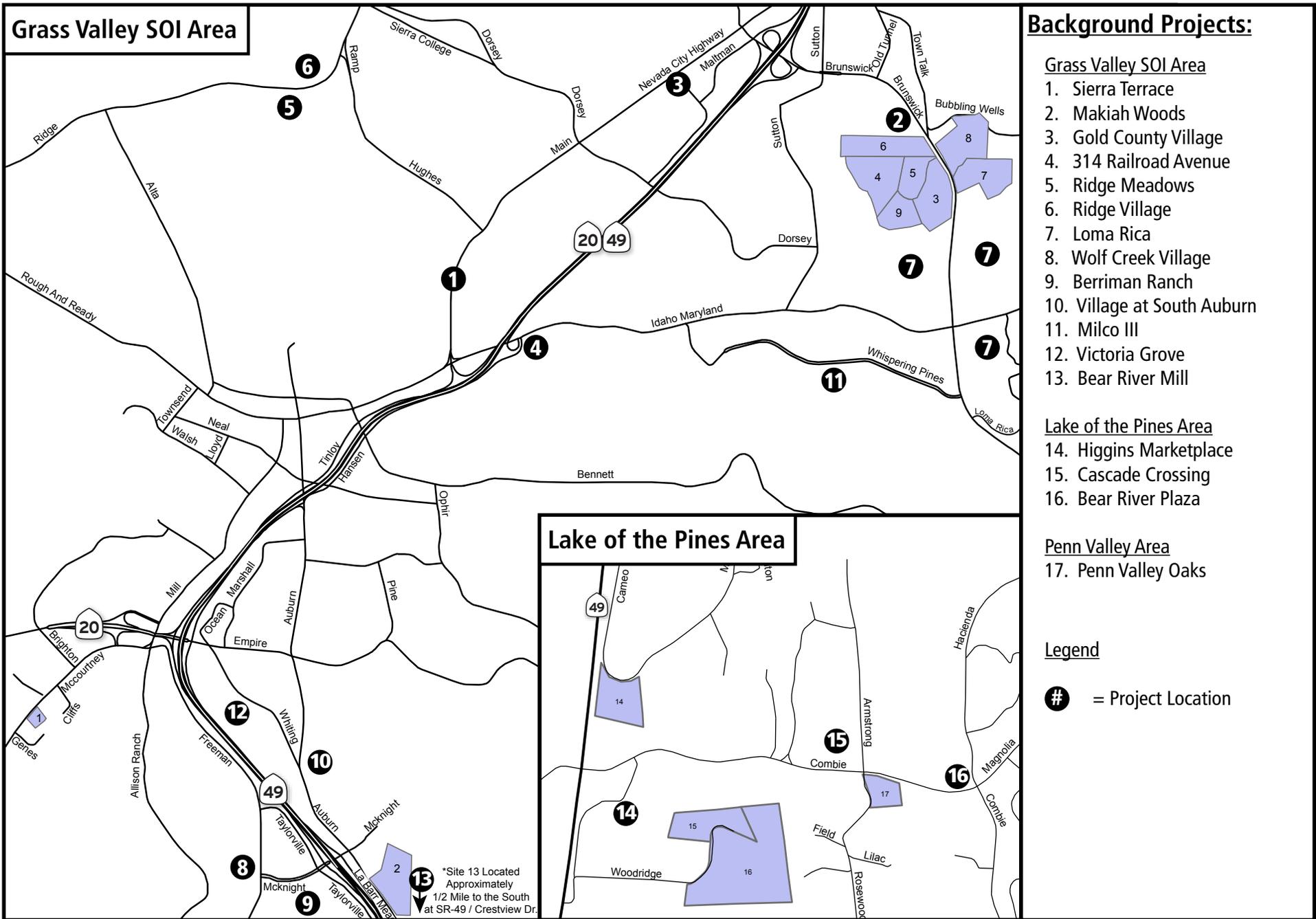
Source: Nevada County / City of Grass Valley, 2012

Table 5-2
Geographic Areas for Cumulative Impact Analysis

EIR Section	Geographic Area for Cumulative Impact Analysis
4.2 Land Use and Planning	County Planning Areas and Grass Valley Sphere of Influence
4.3 Aesthetics	County Planning Areas and City Sphere of Influence Area
4.5 Air Quality	Northern Sierra Air Quality Management District (NSAQMD) for cumulative criteria pollutant impacts California, the U.S., and the world for global climate change
4.6 Biological Resources	Wildlife and plant habitats of affected species in the region, including woodland, forest, chaparral, riparian, wetland, and grassland communities as well as aquatic habitat in the Wolf Creek, Squirrel Creek and Ragsdale Creek watersheds and other downstream watersheds
4.7 Cultural Resources	County Planning Areas and Grass Valley Sphere of Influence
4.8 Geology and Soils	County Planning Areas and Grass Valley Sphere of Influence
4.9 Hazards and Hazardous Materials	The area that could be affected by proposed project activities and the areas that could be affected by other projects whose activities could directly or indirectly affect the presence or fate of hazardous materials on the proposed project site
4.10 Hydrology and Water Quality	The area within and immediately adjacent to the project site and downstream of the project site on Wolf Creek, Squirrel Creek, and Ragsdale Creek.
4.11 Noise	County Planning Areas and Grass Valley Sphere of Influence
4.12 Population and Housing	County Planning Areas and Grass Valley Sphere of Influence
4.13 Public Services, Utilities and Service Systems	County Planning Areas and Grass Valley Sphere of Influence
4.14 Recreation	County Planning Areas and Grass Valley Sphere of Influence
4.15 Transportation/Traffic	County Planning Areas and Grass Valley Sphere of Influence

5.2.2 AESTHETICS

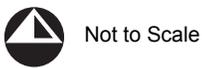
As described in Section 4.3, implementation of the proposed project would not significantly alter existing views of scenic vistas or the character of the project area with implementation of recommended mitigation measures. Future development under the proposed project, Nevada County General Plan, and the City of Grass Valley 2020 General Plan, and approved and proposed projects would potentially result in alteration of the existing rural and natural landscape of the region if not mitigated. Individual projects proposed within the proposed project area must be designed consistent with policies established in the Nevada County General Plan and Western Nevada County Development Guidelines and the City of Grass Valley 2020 General Plan and Community Design Guidelines. The Guidelines for each jurisdiction have been adopted for the specific purpose of reviewing development proposals to ensure that proposed development projects are designed in ways that are in harmony and compatible with the existing landscape and surrounding development. The Guidelines for both jurisdictions would apply to multi-family residential projects.



Source: RBF Consulting 2013

COUNTY OF NEVADA

2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR



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Cumulative Project Locations Map

FIGURE 5.1

The Guidelines provide design considerations that project developers are encouraged to incorporate in the project planning process. Examples of design considerations from the Guidelines include, but are not limited to the following:

- Site design and layout;
- Building materials (including colors);
- Environmentally sensitive design;
- Landscaping;
- Common areas;
- Parking lot design and placement; and
- Lighting.

Projects within the unincorporated area of Nevada County will be reviewed by County staff to ensure a development proposal is consistent with the Western Nevada County Development Guidelines. Likewise, projects within the City of Grass Valley SOI will be reviewed by the City's Design Review Committee.

The most intense cluster of cumulative development is located along Brunswick Road from Old Tunnel Road to Whispering Pines where the Makiah Woods, Sites 3 through 9, and the Loma Rica Ranch projects are located adjacent to each other within the Grass Valley SOI area. These projects propose residential, medical, and retail uses. Project designs consistent with the City's Community Design Guidelines and review by the Design Review Committee will be the mechanism with which these projects will incorporate existing natural features such as densely forested land and intervening topography with design requirements such as setbacks and coordinated access points, to minimize the visibility from areas immediately surrounding the project site. It should be noted that Sites 3, 4, 5, and 9 are owned by the same property owner and proposed multi-family development on those sites would be done as one project to ensure cohesiveness in design. The combined effect of these projects could have a significant impact on the visual character of the existing Brunswick Road corridor. The proposed project's contribution to this impact is considered cumulatively considerable and mitigation is required.

Another area of cumulative development is in the Lake of the Pines Area near the SR 49 and Combie Road intersection where the proposed Higgins Marketplace, and Sites 14, 15, and 16 are located. Each of these project sites is visible from SR 49. The Higgins Marketplace site and Sites 15 and 16 are located adjacent to each other. Similar to the situation discussed above, the combined effects of these projects could have a significant effect on the stretch of SR 49 between Woodbridge and Combie Road. The proposed developments would be most noticeable in the northbound direction because Site 14 is on a south-facing slope and the Higgins Marketplace, and Sites 15 and 16 are visible from the roadway. In the southbound direction, Site 14 will not be as visible because it is facing away from southbound travelers, and the existing development at Higgins Corner blocks most of the view of Sites 15 and 16. The proposed project's contribution to this impact is considered cumulatively considerable and mitigation is required.

Impacts are typically mitigated separately for each project. Cumulative impacts can be mitigated to less than significant levels with use of building materials that are consistent with the general character of the area, landscaping design, scenic resource preservation, open space conservation, and proper lighting techniques to direct light onsite and away from adjacent properties. As the proposed project areas develop, the visual impacts to the existing

scenic resources and rural character of the community would be reduced to less than significant levels upon implementation of recommended mitigation measures. Further, projects proposed within the proposed project area would be analyzed on a project-by-project basis. Projects would be subject to the County's and the City's Development Review process which would provide design and aesthetic requirements. The Development Review process would ensure building design, site planning, lighting, and tree protection are consistent with the Nevada County General Plan, the City of Grass Valley's 2020 General Plan, and Development Code. Any inconsistencies with County or City standards discovered during the Design Review process would warrant additional conditions of approval.

Mitigation Measures:

The following mitigation measures apply to all sites:

Mitigation Measures 4.3-1, 4.3-3, and 4.3-4.

With implementation of the mitigation measures from Section 4.3, cumulatively considerable aesthetic impacts would be reduced to less than cumulatively considerable levels.

5.2.3 AIR QUALITY

The candidate sites and the surrounding area as a whole must be considered for the purpose of evaluating air quality issues on a cumulative level. In particular, the cumulative setting for air quality includes existing, approved, proposed, and reasonably foreseeable development in the NSAQMD. The County is within an area classified as nonattainment for federal and state O₃ and state PM₁₀ standards.

In order to improve air quality and attain the health-based standards, reductions in emissions are necessary within the nonattainment area. The project would result in additional vehicular travel to and from the candidate sites, with the resultant exhaust emissions that contain ozone precursors and particulate matter. Construction impacts, coupled with existing conditions, could create cumulative impacts from particulate matter generation. The rapid growth and combined population, vehicle usage, and business activity within western Nevada County, to which the project would cumulatively contribute, would either delay attainment of the standards or require the adoption of additional controls on existing and future air pollution sources to offset project-related emission increases.

The proposed project and related cumulative projects would comply with NSAQMD rules and requirements, and implement all feasible mitigation measures. According to Table 4.5-4, the proposed project would exceed the NSAQMD thresholds of significance during project operations for regional criteria pollutants. The proposed project would be required to implement features identified by the NSAQMD Draft Guidelines to mitigate emissions. Also, implementation of Mitigation Measure 4.5-2 would reduce area source emissions. However, on a cumulative basis, operational impacts from mobile and area sources would be significant and unavoidable.

Additionally, the CO hotspots analysis included various cumulative projects in the project vicinity and regional growth. Therefore, CO hotspot concentrations calculated at these intersections include the cumulative traffic effect. As seen in Table 4.5-5, no significant cumulative CO impacts would occur.

General Plan Goals and Policies: General Plan Goals RD-4.1 through RD-4.4, Policy 14.2, General Plan Policy 14.4, Policy 14.7, and Policy EC-8.6.4.

Mitigation Measure:

The following mitigation measures apply to all sites:

Implement Mitigation Measures 4.5-1a, 4.5-1b, and 4.5-2.

Level of Significance After Mitigation: Significant and Unavoidable Impact.

5.2.4 GREENHOUSE GAS EMISSIONS

As stated above, implementation of the Housing Element Rezone would result in a significant impact regarding GHG emissions, as the project would result in an increase of GHG emissions under buildout conditions. The proposed Housing Element Rezone would be consistent with Nevada County General Plan policies to reduce energy and water consumption as well as vehicle emissions.

On December 30, 2009, the Natural Resources Agency adopted the CEQA Guideline Amendments prepared by Office of Planning and Research (OPR), as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the CEQA Guidelines Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Guidelines Amendments became effective on March 18, 2010. The Natural Resources Agency originally proposed to add subdivision (f) to section 15130 to clarify that sections 21083 and 21083.05 of the Public Resources Code do not require a detailed analysis of GHG emissions solely due to the emissions of other projects. Rather, the proposed subdivision (f) would have provided that a detailed analysis is required when evidence shows that the incremental contribution of the project's GHG emissions is cumulatively considerable when added to other cumulative projects. Analysis of GHG emissions as a cumulative impact is consistent with the analysis required under the National Environmental Policy Act. Other portions of the CEQA Guideline Amendments address how lead agencies may determine whether a project's emissions are cumulatively considerable (e.g., Proposed Sections 1506(h) (3) and 15064.4). However, public comments noted that the new subdivision merely restated the law, and was capable of misinterpretation. The Natural Resources Agency, therefore, determined that because other provisions of the CEQA Guideline Amendments address the analysis of GHG emissions as a cumulative impact, and because the reasoning of those is fully explained in the Initial Statement of Reasons, subdivision (f) should not be added to the CEQA Guidelines. The deletion was reflected in the revisions that were made available for further public review and comment on October 23, 2009.

It is generally the case that an individual project is of insufficient magnitude to influence climate change or result in a substantial contribution to the global GHG inventory.¹ GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.² The additive effect of project-related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. However, as stated above, at this programmatic stage of analysis, GHG impacts associated with implementation of the Housing Element Rezone would result in a significant impact regarding GHG emissions due to the amount of development that would occur in the County. Additionally, the Housing Element Rezone's GHG emissions in combination with GHG emissions from other known and reasonably foreseeable projects would result in a greater amount of GHG emissions. Therefore, the amount of cumulative GHG emissions would be cumulatively considerable, and would potentially hinder the intent

¹ California Air Pollution Control Officers Association, *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, 2008.

² Ibid.

and statewide reduction goals of AB 32. Impacts in this regard would be significant and unavoidable.

General Plan Goals and Policies: Refer to General Plan Goals RD-4.1 through RD-4.4, EP-4.3, EP-4.4, and EC-8.2, and Policies RD-4.3.4, 14.2, 14.4, and 14.7, and Program EC-8.6.8.

Mitigation Measures: No additional mitigation has been identified.

Level of Significance After Mitigation: Significant and Unavoidable Impact

5.2.5 BIOLOGICAL RESOURCES

The analysis of cumulative biological resource impacts considers the larger context of future development of the County as envisioned by the County General Plan and relies upon the projections of the 1995 General Plan and General Plan EIR. Cumulative biological resource impacts would result from incremental changes that damage or destroy habitat or result in direct mortality of special-status or otherwise protected species within the County.

The proposed project has the potential to result in future development that could convert approximately 150 acres of potential terrestrial habitat to a developed condition, which could result in direct and indirect adverse impacts to common, special-status, and other protected species that rely on habitat provided on the RH Combining District candidate parcels. The majority of impacted habitat within the proposed rezone parcels is comprised of woodland, forest, and non-native annual grassland habitats. These vegetation communities provide habitat for a wide variety of plant and wildlife species. Implementation of the mitigation measures prescribed in Section 4.4 would ensure that impacts to sensitive and high value habitats, such as riparian zones and wetlands, and to special-status species of wildlife and plants would be less than significant.

The conversion to a developed condition of lower sensitivity habitat types, such as oak woodland communities, coniferous forest, chaparral, and non-native annual grasslands would result in a substantial reduction in habitat availability for common wildlife and plant species. However, in the existing condition, the sites are zoned for a variety of uses, including office and business uses, residential planned development, large lot residential agricultural uses, commercial, and industrial. Land use is discussed in greater detail in Section 4.2 of this EIR. Development under the existing zoning and land use designations could result in similar conversions of habitat as development that would be permitted under the proposed rezoning project and would result in loss and fragmentation of habitat for common species. The 1995 Nevada County General Plan EIR concluded that with implementation of policies in the General Plan, buildout under the General Plan would result in less than significant impacts from habitat loss and fragmentation, loss of oak trees, loss of deer habitat, impacts to special-status species, loss of wetlands and degradation of water quality, and loss of riparian habitat. The project would not substantially alter the overall buildout envisioned under the General Plan and would contribute little to increasing the significance of the impacts of buildout under the General Plan. Contribution of the project to cumulative impacts to biological resources would not be cumulatively considerable.

5.2.6 CULTURAL RESOURCES

The analysis of cumulative cultural resource impacts considers the larger context of future development of the County as envisioned by the County General Plan and relies upon the projections of the 1995 General Plan and General Plan EIR. Cumulative cultural resource

impacts would result from incremental changes that damage or destroy cultural resources within the proposed project area.

The proposed project has the potential to result in future development that could damage or destroy potentially significant cultural resources, as well as encounter unanticipated subsurface archaeological deposits or human remains, resulting in their damage or destruction because their subsurface presence cannot be conclusively ruled out. Mitigation Measures 4.7-1a through 4.7-1d and 4.7-3 would help to protect potentially significant recorded and unknown cultural resources from damage, destruction, or information loss as a result of future development. Therefore, implementation of these mitigation measures, along with implementation of similar mitigation measures by other projects in the County's Planning Area, would prevent the project from cumulatively contributing to the damage or destruction of cultural resources.

5.2.7 GEOLOGY AND SOILS

The analysis of cumulative geology and soils impacts considers the larger context of future development in Nevada County as envisioned by the 1995 General Plan and the City of Grass Valley as envisioned by the 2020 General Plan. The analysis relies upon the projections of the 1995 Nevada County General Plan and General Plan EIR for Sites 10-18 as well as the City of Grass Valley 2020 General Plan and General Plan EIR for Sites 1-9. As described above, future development would not result in significant effects associated with secondary seismic hazards (ground shaking, differential compaction, liquefaction, seismically induced flooding and landslides), soil erosion, unstable soils, expansive soil, shallow mining excavation, or shallow resistant rock with adherence to applicable state and local regulations, codes and requirements and the implementation of Mitigation Measures 4.8-1, 4.10-1a and 4.10-1b. None of the cumulative projects would reasonably be expected to be affected by the exact same geology, soils or seismicity impacts as the proposed project due to the unique characteristics of each site. Therefore, the proposed project's geology, soils, and seismicity impacts would not be cumulatively considerable.

5.2.8 HAZARDS AND HAZARDOUS MATERIALS

For hazards and hazardous materials, the study area considered for the cumulative impact of other projects consists of: (a) the area that could be affected by proposed project activities; and (b) the areas that could be affected by other projects whose activities could directly or indirectly affect the presence or fate of hazardous materials on the proposed project site. The proposed project would not transport hazardous materials (mine waste stockpiles or impacted soils) offsite. Additionally, additional hazardous materials investigations on a project-by-project basis would reduce the existing human health risk from on- and off-site contamination.

Compliance with local, state, and federal regulations would ensure that potential contamination or exposure to hazardous substances is avoided or controlled to minimize the risk to the public on a case-by-case basis, as the cumulative projects are implemented. Impacts in this regard are less than significant with compliance of applicable local, state, and federal regulations and implementation of recommended mitigation measures.

5.2.9 HYDROLOGY AND WATER QUALITY

The analysis of cumulative hydrology and water quality impacts considers the larger context of future development in the County of Nevada, and as envisioned by the 1995 Nevada County General Plan (for sites 10-18) and the 2020 Grass Valley General Plan (for Sites 1-9). Cumulative impacts on hydrology and water quality would not result in any significant hydrology or water quality impacts with adherence to state and local regulations and the implementation of mitigation measures. Adherence to these state and local regulations and implementation of Mitigation Measures 4.10-1a and 4.10-1b, 4.10-6, along with implementation of similar mitigation measures for other cumulative projects, would prevent cumulative impacts on hydrology and water quality from being cumulatively considerable. As discussed in Section 4.10, future development of the proposed project areas would not result in any significant impacts with the implementation of mitigation measures. In addition, future development within the project vicinity would be guided by the 1995 County of Nevada General Plan and the City of Grass Valley 2020 General Plan, and associated planning and environmental documents. Cumulative impacts on hydrology and water quality would not be cumulatively considerable.

5.2.10 NOISE

Cumulative Short-Term Construction Noise

The project developer has no control over the timing or sequencing of related projects, and as such, any quantitative analysis to ascertain the daily construction noise that assumes multiple, concurrent construction projects would be speculative. Under a worst-case scenario, construction activities for all related projects would occur simultaneously. However, construction-related noise for projects proposed under the Housing Element Rezone Implementation Program, as well as cumulative projects, would be localized. Since construction activities are exempt from the County Noise Ordinance, Mitigation Measures 4.11-1a and 4.11-1b would require BMPs to reduce short-term construction noise to a less than significant level.

Construction noise impacts would cease upon completion of excavation, grading and building activities. Compliance with site-specific mitigation, as well as compliance with the County Code requirements, would serve to minimize the length of time noise-sensitive receptors are exposed to significant noise levels. Additionally, because noise dissipates as it travels away from its source, noise impacts from construction activities would be limited to each of the respective sites and their vicinities. Therefore, a less than significant impact would occur in this regard.

Cumulative Operational Noise

Projects proposed under the Housing Element Rezone Implementation Program would introduce the use of stationary equipment that would increase noise levels within the area. Based on the long-term stationary noise impact analysis, impacts would be less than significant. Additionally, future projects would not result in stationary long-term equipment that would significantly affect surrounding sensitive receptors. Furthermore, future development proposals within the County would require separate discretionary approval and CEQA assessment, which would address potential noise impacts and identify necessary attenuation measures, where appropriate. Thus, cumulative noise exposure for long-term operations would result in a less than significant impact.

Cumulative Mobile Noise

The cumulative mobile noise analysis is conducted in a two-step process. First, the combined effects from both the proposed project and other projects are compared. Second, for combined effects that are determined to be cumulatively significant, the project's incremental effects then are analyzed. The project's contribution to a cumulative traffic noise increase would be considered significant when the combined effect exceeds perception level (i.e., auditory level increase) threshold. The combined effect compares the "cumulative with project" condition to "existing" conditions. This comparison accounts for the traffic noise increase from the project generated in combination with traffic generated by projects in the cumulative projects list. The following criteria have been utilized to evaluate the combined effect of the cumulative noise increase.

Combined Effects. The cumulative with project noise level ("Cumulative With Project") would cause a significant cumulative impact if a 3 dBA increase over existing conditions occurs and the resulting noise level exceeds the applicable exterior standard at a sensitive use.

Although there may be a significant noise increase due to the proposed project in combination with other related projects (combined effects), it must also be demonstrated that the project has an incremental effect. In other words, a significant portion of the noise increase must be due to the proposed project. The following criteria have been utilized to evaluate the incremental effect of the cumulative noise increase.

Incremental Effects. The "Cumulative With Project" causes a 1 dBA increase in noise over the "Cumulative Without Project" noise level.

A significant impact would result only if both the combined and incremental effects criteria have been exceeded. Noise by definition is a localized phenomenon, and drastically reduces as distance from the source increases. Consequently, only proposed projects and growth due to occur in the general vicinity of the project site would contribute to cumulative noise impacts. Table 5.2.10-1, *Cumulative Traffic Noise Scenario*, lists the traffic noise effects along roadway segments in the project vicinity for "Existing," "Cumulative Without Project," and "Cumulative With Project," including incremental and net cumulative impacts.

First, it must be determined whether the Cumulative With Project Increase Above Existing Conditions (*Combined Effects*) is exceeded. Per Table 5-3, this criteria is exceeded along two of the segments. Next, under the *Incremental Effects* criteria, cumulative noise impacts are defined by determining if the forecast ambient (Cumulative Without Project) noise level is increased by 1 dB or more. Based on the results of Table 5-3, of the two segments that exceed the *Combined Effects* criteria, neither would also exceed the *Incremental Effects* criteria. The roadway segments would not result in significant cumulative impacts. Therefore, the proposed project, in combination with cumulative background traffic noise levels, would result in a less than significant cumulative impact in this regard.

Mitigation Measures:

The following mitigation measures apply to all sites:

Refer to Mitigation Measures 4.11-1a, 4.11-1b, and 4.11-2. Additional mitigation is not required.

Level of Significance After Mitigation: Less Than Significant Impact.

**Table 5.2.10-1
 Cumulative Traffic Noise Scenario**

Roadway Segment	Existing	Cumulative Without Project	Cumulative With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference in dBA Between Existing and Cumulative With Project	Difference in dBA between Cumulative Without Project and Cumulative With Project	
Nevada City Highway						
Dorsey Drive to Brunswick Road	61.6	62.1	62.2	0.6	0.1	No
North of Brunswick Road	63.0	64.8	64.8	1.8	0.0	No
SR-20						
SB On-Ramp	64.6	66.3	66.5	1.9	0.2	No
Brunswick Road						
SR-20 to Sutton Way	64.8	66.5	66.7	1.9	0.2	No
Sutton Way to Old Tunnel Road	59.4	61.7	62.0	2.6	0.3	No
Old Tunnel Road to Idaho Maryland Road	58.4	60.9	61.1	2.7	0.2	No
South of Idaho Maryland Road	59.2	61.2	61.3	2.1	0.1	No
Sutton Way						
North of Brunswick Road	59.7	60.4	60.5	0.8	0.1	No
South of Brunswick Road	62.4	63.3	63.6	1.2	0.3	No
Idaho Maryland Road						
West of Brunswick Road	54.1	55.3	55.3	1.2	0.0	No
East of Brunswick Road	51.1	56.5	56.7	5.6	0.2	No
McCourtney Road						
South of Personeni Road	56.5	58.4	58.5	2.0	0.1	No
McKnight Way						
East of SR-49	62.0	63.4	63.4	1.4	0.0	No
SR-49 SB Ramps to SR-49 NB Ramps	62.3	63.7	63.8	1.5	0.1	No
SR-49 Ramps to Auburn Street	61.9	64.2	64.3	2.4	0.1	No
Auburn Street						
North of McKnight Way	55.9	58.1	58.2	2.3	0.1	No

Table 5.2.10-1, continued

Roadway Segment	Existing	Cumulative Without Project	Cumulative With Project	Combined Effects	Incremental Effects	Cumulatively Significant Impact?
	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	dBA @ 100 Feet from Roadway Centerline	Difference in dBA Between Existing and Cumulative With Project	Difference in dBA between Cumulative Without Project and Cumulative With Project	
La Barr Meadows Road						
South of McKnight Way	57.8	61.1	61.2	3.4	0.1	No
SR-20						
West of Pleasant Valley Road	62.3	62.6	62.8	0.5	0.2	No
Pleasant Valley Road to Rough and Ready Hwy.	63.9	64.3	64.4	0.5	0.1	No
East of Rough and Ready Highway	64.6	65.1	65.5	0.9	0.4	
Pleasant Valley Road						
North of SR-20	61.0	61.4	61.6	0.6	0.2	No
Penn Valley Drive						
Pleasant Valley Road to Horton Street	59.9	61.4	61.7	1.8	0.3	No
Horton Street to Broken Oak Court	55.7	56.1	56.9	1.2	0.8	No
Broken Oak Court to Spenceville Road	56.7	57.6	58.8	2.1	1.2	No
Rough and Ready Highway						
North of SR-20	55.9	57.1	57.5	1.6	0.4	No
South of SR-20	58.7	59.4	60.2	1.5	0.8	No
Spenceville Road						
South of Penn Valley Drive	56.2	56.8	56.9	0.7	0.1	No
SR-49						
Cameo Drive to Combie Road	66.2	68.1	68.2	2.0	0.1	No
Combie Road to Woodridge Drive	67.4	68.8	68.9	1.5	0.1	No
Combie Road						
West of SR-49	55.5	57.3	57.4	1.9	0.1	No
East of SR-49	60.3	61.9	62.2	1.9	0.3	No
West of Rosewood Drive	60.1	61.7	61.8	1.7	0.1	No
Rosewood Drive to Hacienda Drive	59.9	61.3	61.7	1.8	0.4	No
South of Magnolia Road	56.1	57.3	57.6	1.5	0.3	No
Magnolia Road						
East of Hacienda Drive	59.3	59.4	59.5	0.2	0.1	No
Hacienda Drive						
North of Combie Road	53.0	53.9	53.9	0.9	0	No

Notes: ADT = average daily trips; dBA = A-weighted decibels; CNEL = community noise equivalent level

Source: Traffic noise modeling is based on traffic data provided by RBF Consulting, January 2013.

5.2.11 POPULATION AND HOUSING

The analysis of cumulative population and growth impacts considers the larger context of future development of the County and City as envisioned by their General Plans and relies upon the projections of those plans. Future development under the proposed project and the County of Nevada and City of Grass Valley General Plans, together with approved and proposed projects, would result in an increased population and the need for additional housing.

As described in Section 4.12, the project's estimated population of 2,960 residents in Grass Valley and 2,438 residents in Nevada County represents approximately 13 percent of the City's and 28 percent of the County's anticipated population growth and would occur over a 10- to 20-year timeframe. As such, the proposed project would result in an increase in population and growth estimates over what was identified in the General Plan.

As part of the County's General Plan Final EIR certification process, the Board of Supervisors attempted mitigation of certain countywide environmental impacts by adopting General Plan policies intended to effect a reduction in buildout capacity from approximately 181,000 persons to 140,000 persons countywide. However, a General Plan Implementation Measure for a county buildout growth limitation tied to growth in the cities was never adopted. Therefore, the County has determined that this 140,000 capacity level is not a "cap" in the sense of a growth limitation. Rather, it is merely an estimate for the buildout capacity that was expected to result from the General Plan. Moreover, it was never intended to require growth in the unincorporated county to be limited or reduced by reason of added buildout capacity in the incorporated cities. The estimate was not intended to preclude land use decisions by the County because of increases in buildout capacity within city limits that are beyond the County's control (see Final General Plan EIR, Vol. 1, p. 3-24). In addition, other approved projects in the County have not and do not always achieve maximum density due to site-specific conditions and Planning Commission decisions. Therefore, over time, the net changes in buildout capacity appear to be in equilibrium with increases offset by other project decreases. This equilibrium is very consistent with the policies and estimates outlined in the adopted General Plan.

Providing this context, the fact that the proposed project increases the residential density and general intensity of population and growth estimates over what was identified in the County's General Plan does not necessarily mean that the project would reach or exceed the countywide population buildout capacity. Given that other approved projects in the County have not and do not always achieve maximum density, it is unlikely that the proposed project would be inconsistent with the buildout capacity. Additionally, the proposed project would be developed to accommodate future population demand and meet the state requirements for high density and affordable housing in the County. Therefore, the impact associated with the proposed project would not contribute to cumulative long-term impacts on the population of Nevada County, and would not be cumulatively considerable.

5.2.12 PUBLIC SERVICES, UTILITIES, AND SERVICE SYSTEMS

As described Section 4.13, the public service needs of the proposed project could result in potential impacts to service providers including the Police and Fire Departments, libraries, and sewer. Implementation of Mitigation Measures 4.13-1a, 4.13-1b, 4.13-1c and 4.13-2d would reduce those impacts to a less than significant level. The proposed project would have

less than significant impacts on the demand for or provision of utilities, including water supply and solid waste disposal.

Cumulative projects include development projects in the City and County that could increase the need for public services within the project vicinity. However, future development within the project vicinity would be guided by the City and County General Plans, and associated planning and environmental documents. Each project would be subject to the City and/or County planning process. As part of this planning process, the payment of appropriate fees (including student impact fees) by all development projects would be required to mitigate any effects to public services, utilities and service systems and minimize cumulative impacts on a project-by-project basis. Furthermore, the City and County Fire Departments and Police/Sheriff Departments would be involved in the development review process for all projects in the City and County, and would continue to provide input into the review of new projects. Additionally, the proposed project, in conjunction with reasonably foreseeable future projects, would bring additional annual revenue to the City in the form of increased local property taxes assessed on the new residential development that would offset the increased demand for police and fire services. Future development would also be required to comply with all federal, state and local regulations and ordinances protecting utility services, including providing sewer service and complying with all water conservation measures and waste minimization efforts in accordance with City and County requirements. Therefore, the incremental impact associated with the proposed project would not contribute to cumulative long-term impacts on public services, utilities and service systems and, therefore, would not be cumulatively considerable.

5.2.13 RECREATION

The analysis of cumulative recreational impacts considers the larger context of future development of Nevada County and the City of Grass Valley as envisioned by their respective General Plans and relies upon the projections of those General Plans. As described above, future development would not result in significant effects associated with the demand for or provision of recreational facilities with implementation of mitigation measures. Therefore, the proposed project would not contribute to cumulative long-term impacts on recreation.

5.2.14 TRANSPORTATION/TRAFFIC

For cumulative conditions, the Nevada County Transportation Commission (NCTC) and City of Grass Valley 2030 travel demand model was utilized and the volumes post processed to reflect Approved Projects and newer traffic count data. Review of the 2030 model volumes revealed that cumulative volumes were lower at certain locations compared to Approved Projects volumes. The cumulative volumes were subsequently post processed by adding growth in the volumes between 2012 and 2030.

Intersections were analyzed for cumulative conditions. The model was updated to reflect the new Dorsey Drive Interchange with SR 20-49.

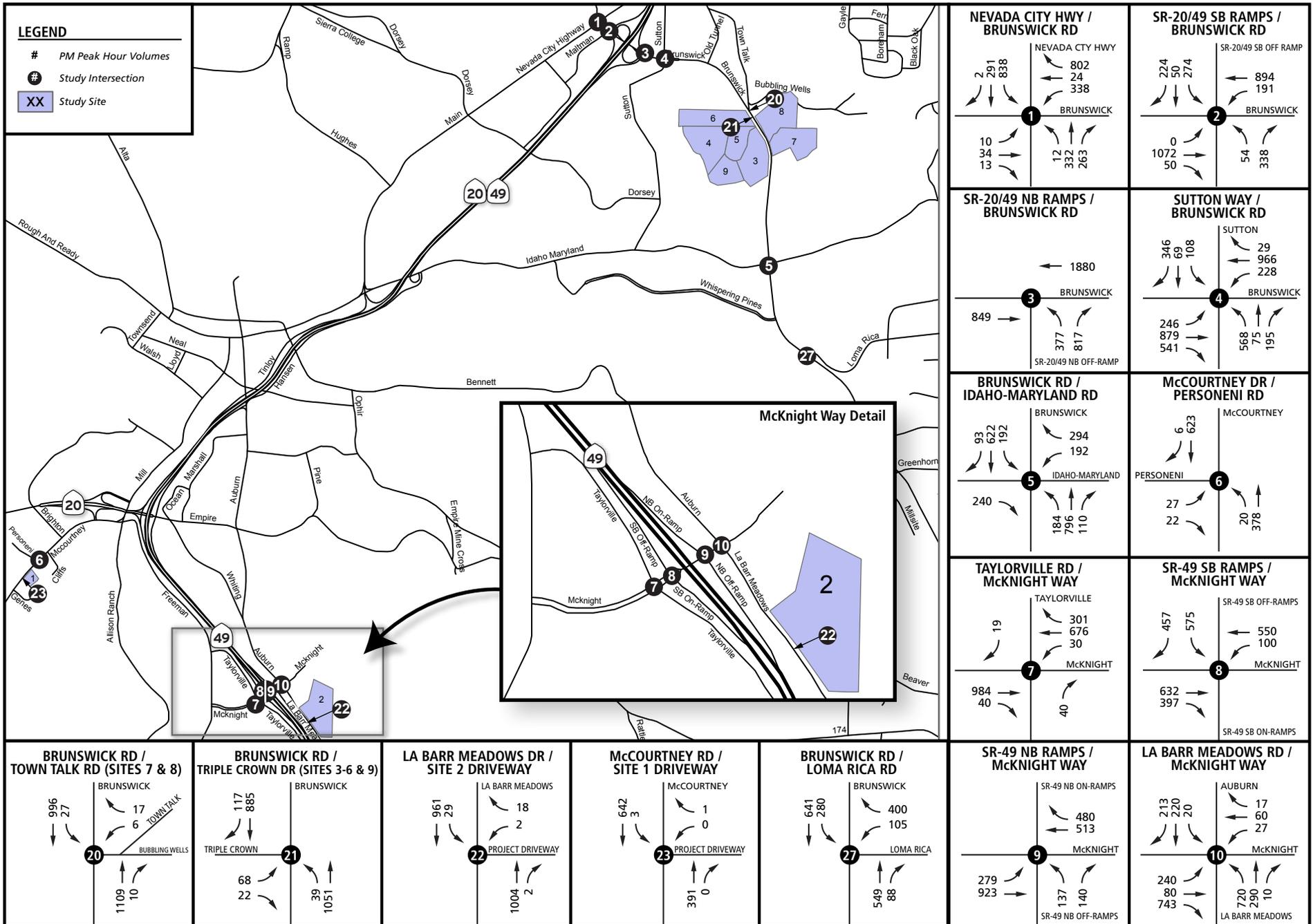
The cumulative and cumulative plus project traffic volumes are provided in Figure 5.2.14-1a-c, *Cumulative PM Peak Hour Volumes* and Figure 5.2.14-2a-c, *Cumulative Plus Net Project PM Peak Hour Volumes*.

Cumulative Traffic Conditions

The analysis of cumulative traffic without the proposed project was performed and the results are identified in Table 5.2.14-1, *Signalized Intersection HCM LOS –Cumulative Plus Project Conditions* and Table 5.2.14-2, *Unsignalized Intersection HCM LOS – Cumulative Plus Project Conditions*.

**Table 5.2.14-1
Signalized Intersection HCM LOS –Cumulative & Cumulative Plus Project
Conditions**

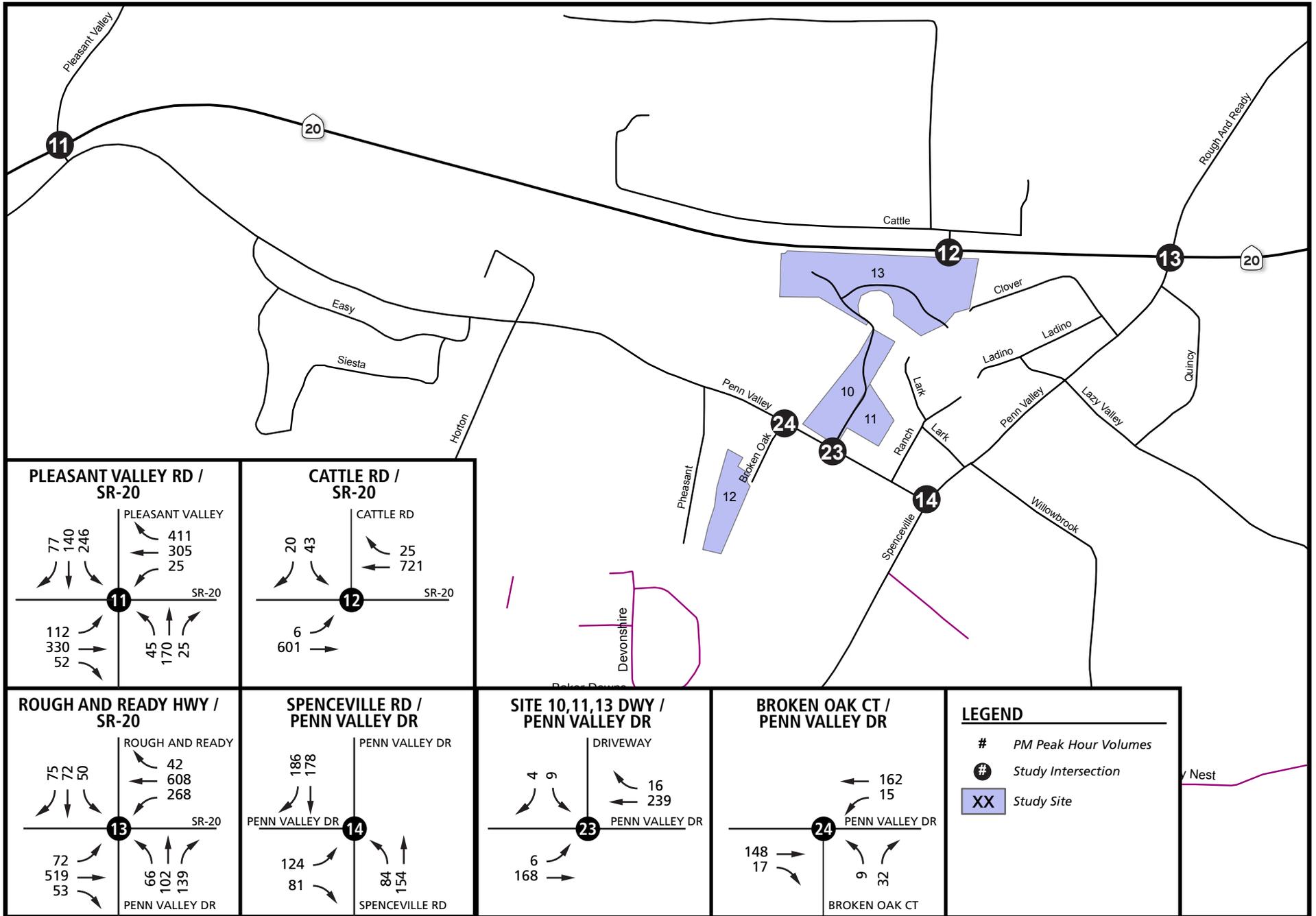
Intersection	Intersection Control	LOS Threshold	Cumulative			Cumulative + Project		
			V/C Ratio	Delay (Secs.)	LOS	V/C Ratio	Delay (Secs.)	LOS
Grass Valley SOI Study Intersections								
1. Nevada City Highway / Brunswick Road	Signal	G.V.	0.74	59.2	E	0.77	62.3	E
		D						
Mitigation (MM 5.2.14-1): Modify Signal Timing						0.76	41.8	D
2. SR 20-49 SB Ramps / Brunswick Road	Signal	Caltrans	0.77	49.7	D	0.79	53.5	D
		C/D						
3. SR 20-49 NB Ramps / Brunswick Road	Signal	Caltrans	0.99	39.8	D	1.04	47.8	D
		C/D						
4. Sutton Way / Brunswick Road	Signal	G.V.	0.85	39.3	D	0.91	42.0	D
		D						
8. SR 49 SB Ramps / McKnight Way	Signal	Caltrans	0.86	29.1	C	0.89	30.7	C
		C/D						
9. SR 49 NB Ramps McKnight Way	Signal	Caltrans	0.77	58.0	E	0.80	67.5	E
		C/D						
Mitigation (MM 5.2.14-2): Roundabout						0.79	18.3	C
Penn Valley Study Intersections								
11. Pleasant Valley Rd / SR-20	Signal	Caltrans	0.63	26.6	C	0.65	28.0	C
		C/D						
13. Penn Valley Drive / Rough and Ready Hwy SR-20	Signal	Caltrans	0.62	19.7	B	0.71	26.0	C
		C/D						
Lake of the Pines Study Intersections								
16. SR-49 Combie Road	Signal	Caltrans	1.14	121.1	F	1.15	136.3	F
		C/D						
Mitigation (MM 4.15-5): Add Southbound Left Turn Lane and Extend Westbound Left lane to 250 Ft.						0.92	47.2	D
18. Hacienda Drive Combie Road	Signal	Nev. Cnty.	0.86	39.8	D	0.86	39.9	D
		D						
Source: RBF Consulting 2013								
Notes: GV = 1. City of Grass Valley, Nev. Cnty. = Nevada County								
2. Bold indicates LOS below acceptable LOS standard								



Source: RBF Consulting 2013 Not to Scale

GRASS VALLEY SOI STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

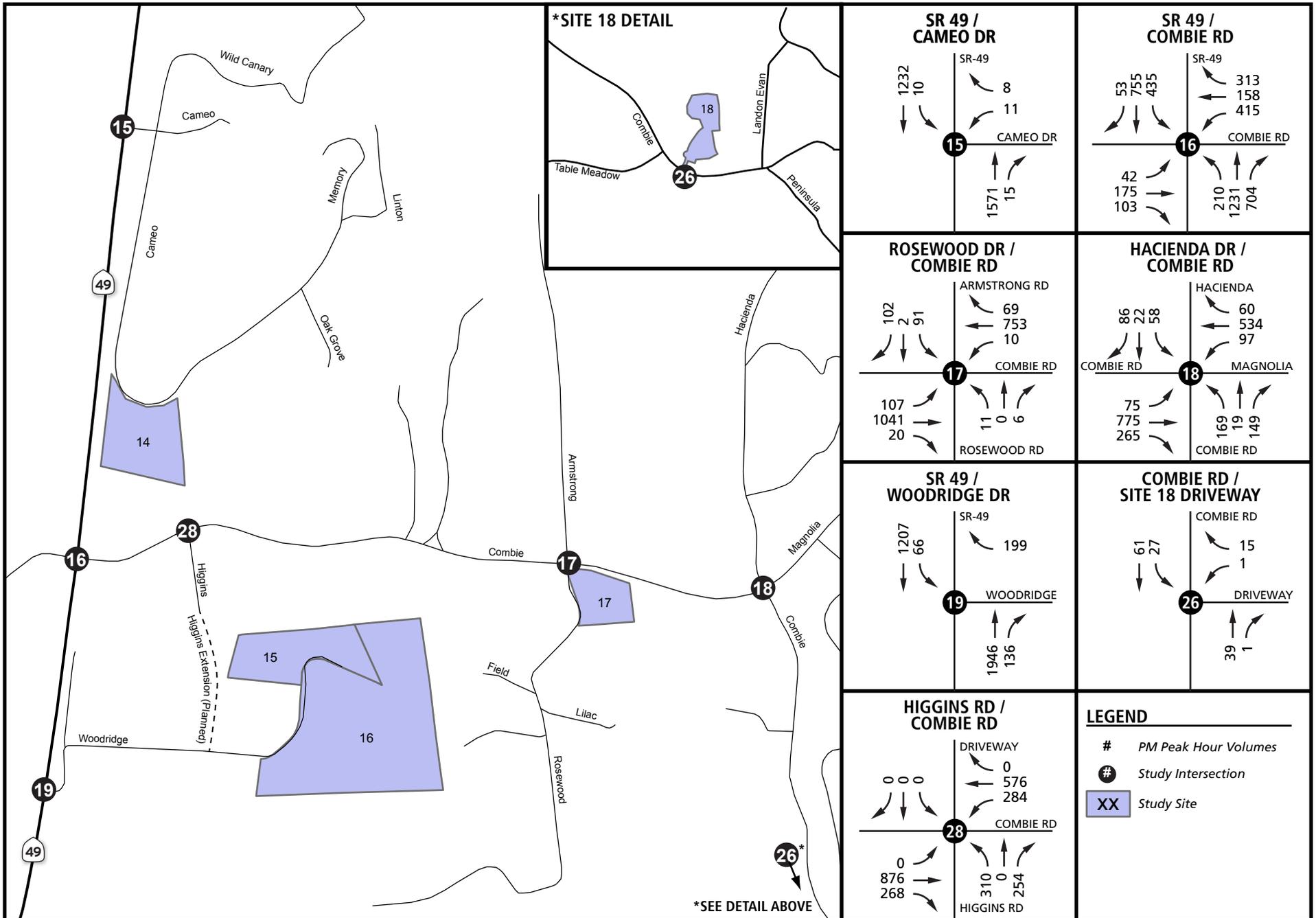




Source: RBF Consulting 2013 Not to Scale

PENN VALLEY STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR



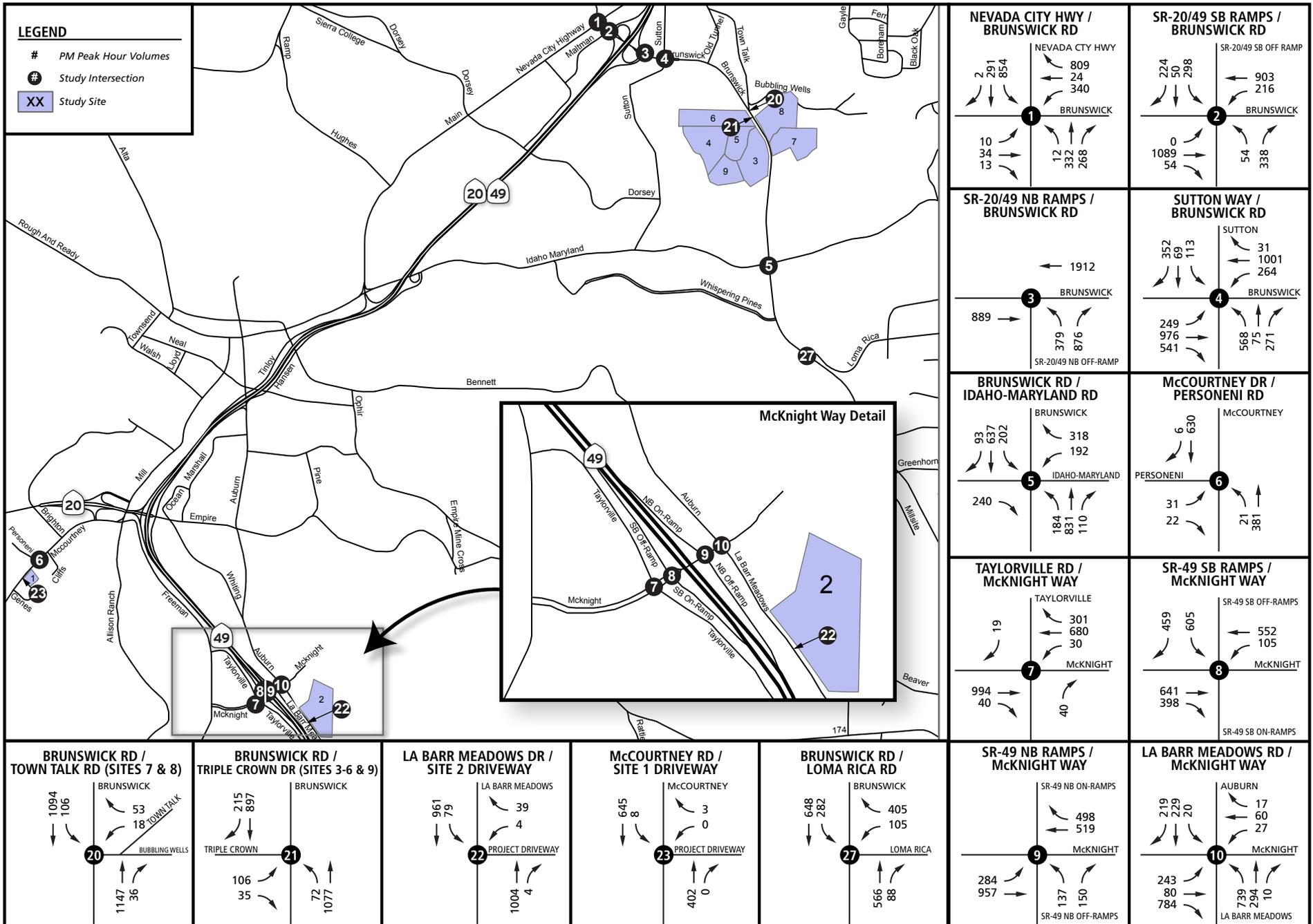


Source: RBF Consulting 2013 Not to Scale

LAKE OF THE PINES STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Cumulative under Current General Plan Land Use Designations PM Peak Hour Traffic Volumes

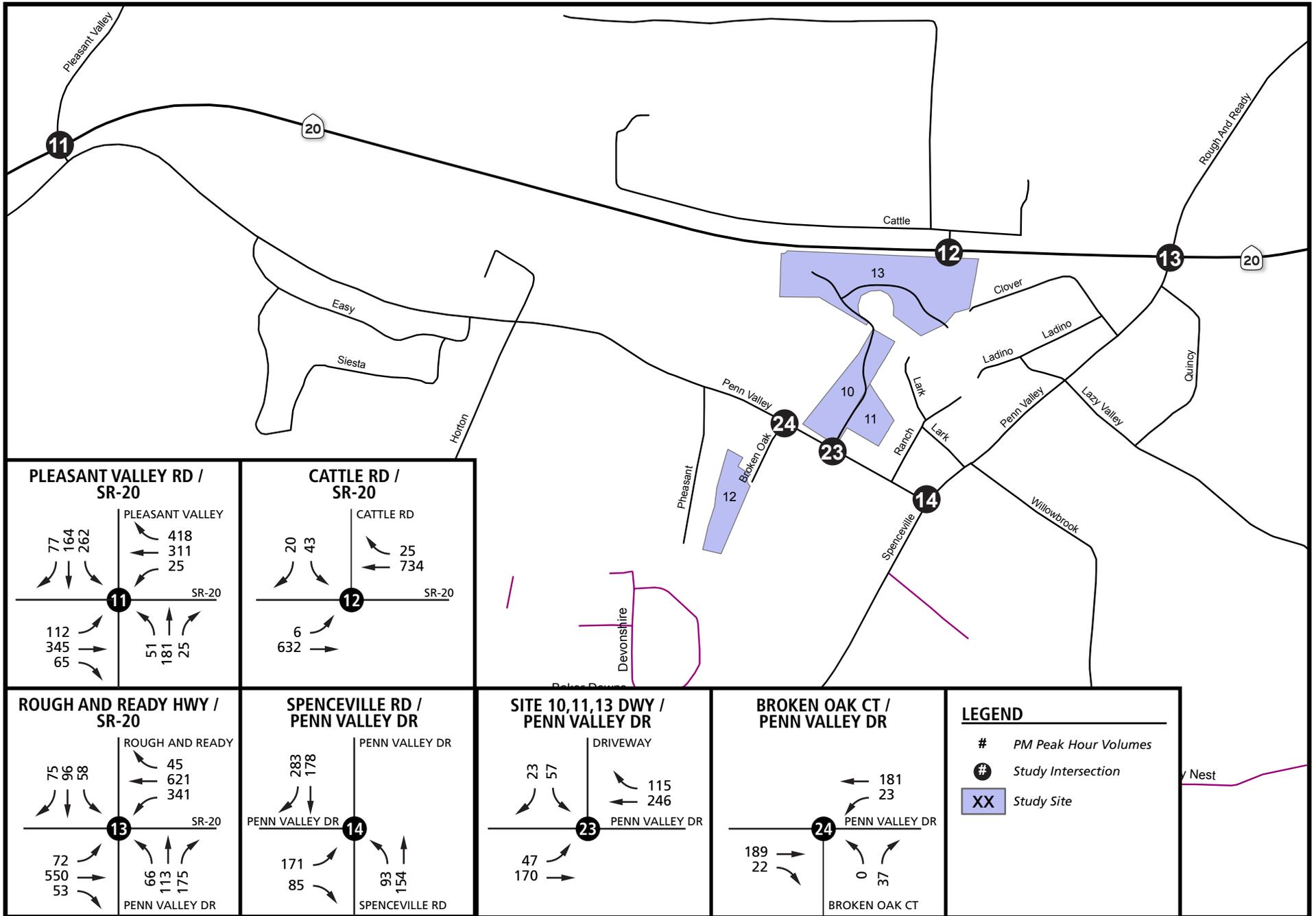




Source: RBF Consulting 2013 Not to Scale

GRASS VALLEY SOI STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR



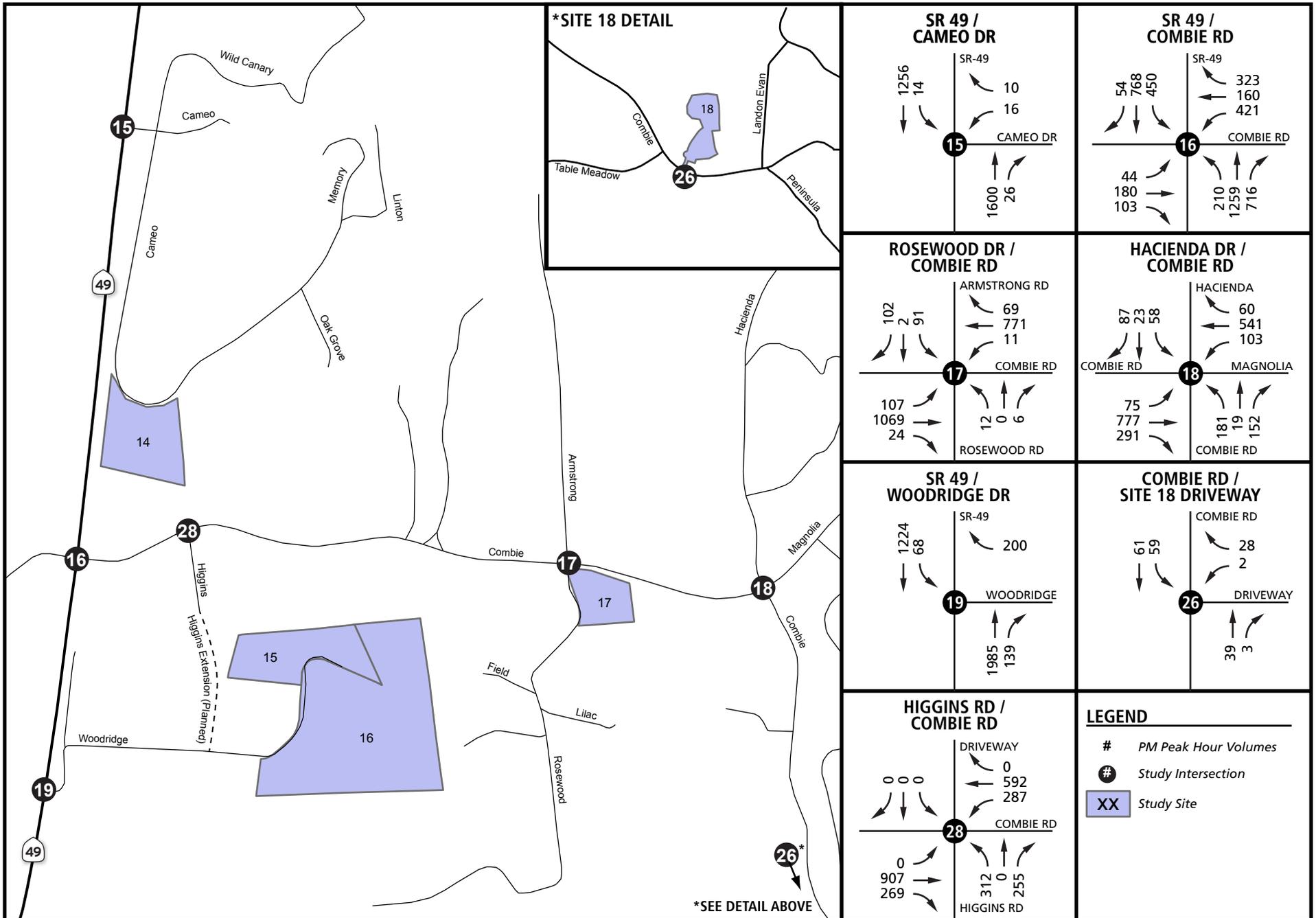


Source: RBF Consulting 2013 Not to Scale

PENN VALLEY STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Cumulative + Project PM Peak Hour Traffic Volumes





Source: RBF Consulting 2013 Not to Scale

LAKE OF THE PINES STUDY AREA
 COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Cumulative + Project PM Peak Hour Traffic Volumes



Table 5.2.14-2
Unsignalized Intersection HCM LOS – Cumulative Plus Project Conditions

Intersection	Intersection Control	LOS Threshold	Cumulative		Cumulative + Project	
			Delay (Secs.)	LOS	Delay (Secs.)	LOS
Grass Valley SOI Study Area						
5. Brunswick Road / Idaho-Maryland Road	SSS (EB/WB) Worst Approach	G.V.	>100	F	>100	F
		D	*	F	*	F
	Mitigation (MM 4.15-2): Roundabout				11.2	B
6. McCourtney Road / Personeni Road	SSS (EB) Worst Approach	G.V.	1.2	A	1.3	A
		D	19.4	C	20.3	C
7. Taylorville Road / McKnight Way	SSS (NB/SB) Worst Approach	G.V.	0.5	A	0.5	A
		D	18.3	C	18.4	C
10. La Barr Meadows Road / McKnight Way	SSS (NB/SB) Worst Approach	G.V.	>100	F	>100	F
		D	>100	F	>100	F
	Mitigation (MM 4.15-3) Roundabout				18.3	C
20. Brunswick Road / Town Talk Road / Sites 7,8	SSS (EB) Worst Approach	G.V.	0.7	A	4.9	A
		D	48.2	E	>100	F
	Mitigation (MM 5.2.14-3): Signalize and Align with Triple Crown Drive				14.8	B
21. Brunswick Road / Triple Crown Drive / Sites 3-6, 9	SSS (WB) Worst Approach	G.V.	17.9	C	>100	F
		D	>100	F	*	F
	Mitigation (MM 4.15-4): Signalize and Align with Town Talk Road				14.8	B
22. McCourtney Road / Driveway Site 1	SSS (WB) Worst Approach	G.V.	0.4	A	1.1	A
		D	27.0	D	30.4	D
27. Brunswick Road / Loma Rica Road	SSS (WB) Worst Approach	G.V.	15.5	C	17.2	C
		D	57.3	F	64.3	F
	Mitigation (MM 5.2.14-4): Signalize				18.2	B
Penn Valley Study Area						
12. Cattle Drive / SR-20	SSS (SB) Worst Approach	Caltrans	1.5	A	1.5	A
		C/D	32.9	D	34.9	D
14. Spenceville / Penn Valley Rd/ Penn Valley Drive	AWS Worst Approach	Nev. Cnty.	11.8	B	15.5	C
		D	12.6	B	18.2	C
23. Penn Valley Drive / Driveway to Sites 10, 11, 13	SSS (SB) Worst Approach	Nev. Cnty.	0.5	A	2.3	A
		D	11.0	B	13.4	B
24. Penn Valley Drive / Broken Oak Court / Site 12	SSS (NB) Worst Approach	Nev. Cnty.	1.4	A	1.5	A
		D	9.7	A	10.2	B
Lake of the Pines Study Area						
15. SR-49 / Cameo Drive	SSS (WB) Worst Approach	Caltrans	0.3	A	0.4	A
		C/D	34.2	D	34.4	D
17. Rosewood Road / Combie Road	SSS (NB/SB) Worst Approach	Nev. Cnty.	11.1	B	19.1	C
		D	>100	F	>100	F
19. SR-49 / Wooddridge Court	SSS (NB) Worst Approach	Caltrans	2.9	A	7.6	A
		C/D	44.6	E	48.1	E
26. Combie Road / Driveway to Site 18	SSS (NB) Worst Approach	Nev. Cnty.	>100	A	3.7	A
		D	>100	A	8.7	A
28. Higgins Road / Combie Road	SSS (NB) Worst Approach	Nev. Cnty.	>100	F	>100	F
		D	>100	F	>100	F
	Mitigation (MM 4.15-7): Signalize and Construct Additional Eastbound Through Lan				32.8	C

Source: RBF Consulting 2013

Notes: 1. NB, SB, EB, WB, AWS, SSS = Northbound, Southbound, Eastbound, Westbound, All Way, Side Street Stop

2. Worst approach delay utilized to identify operating conditions. Overall delay includes through traffic.

3. **Bold** indicates LOS below acceptable LOS standard

* Indicates delay beyond the capability of the Synchro analysis software

**Table 5.2.14-3
 Cumulative Plus Project Mitigation Triggers
 (Under Individual Site Build Out Conditions)**

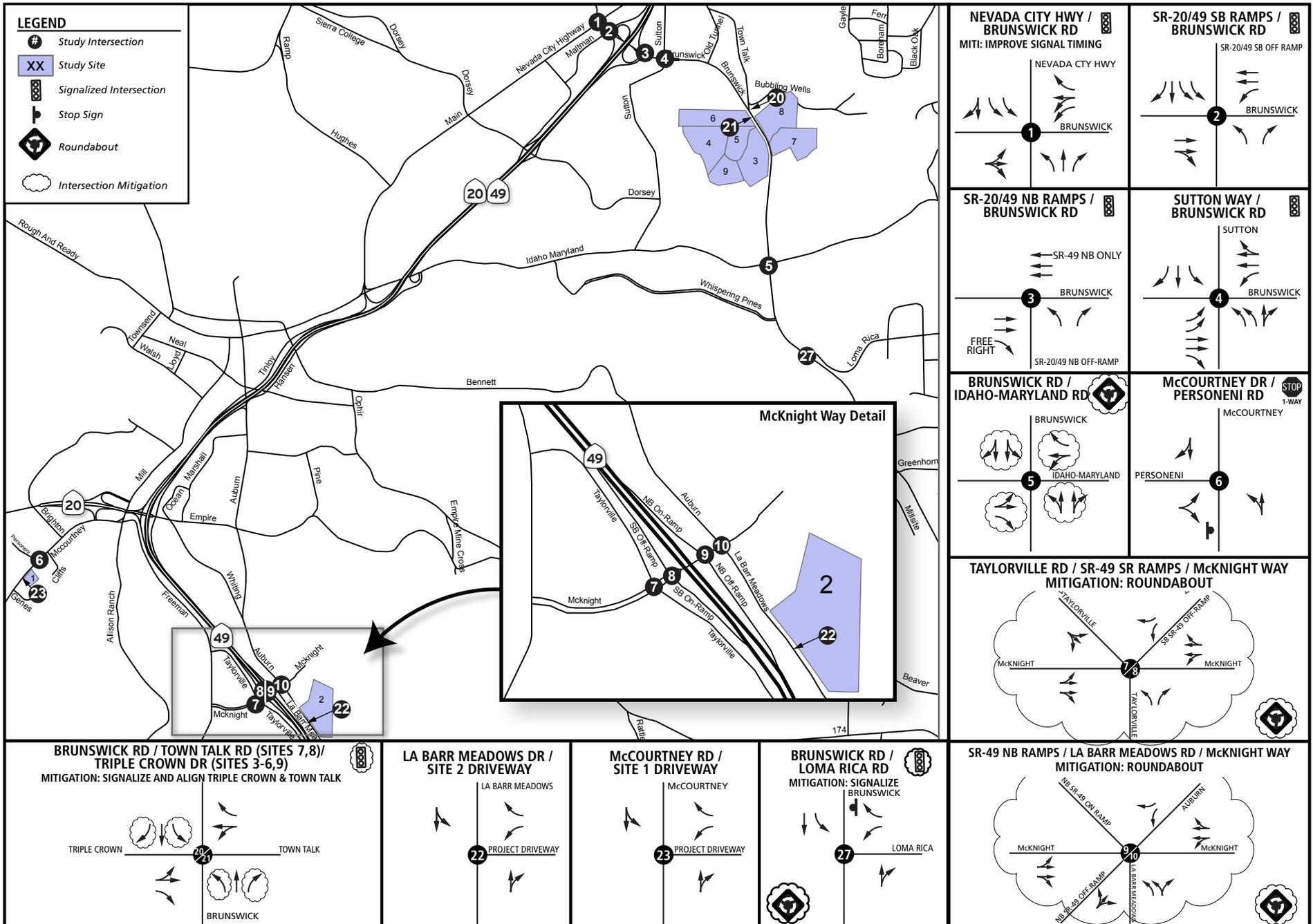
Intersection	Mitigation Measure #	Number of PM Peak Hour Project Trips Added that Trigger Mitigation	Sites Triggering Mitigation
<i>Grass Valley SOI Study Area</i>			
1. Nevada City Highway / Brunswick Road	5.2.14-1	1 Trip	Site 3 Site 4 Site 5 Site 6 Site 7 Site 8 Site 9
9. SR 49 Northbound Ramps / McKnight Way	5.2.14-3	1 Trip	Site 3 Site 4 Site 5 Site 6 Site 7 Site 8 Site 9
20. Brunswick Road / Town Talk Road	5.2.14-2	1 Trip	Site 3 Site 4 Site 5 Site 6 Site 7 Site 8 Site 9
22. Brunswick Road / Loma Rica Drive	5.2.14-4	1 Trip	Site 3 Site 4 Site 5 Site 6 Site 7 Site 8 Site 9

Source: RBF Consulting 2013

All of the improvements and mitigation identified for impacts under Project Conditions would suffice for Cumulative Plus Project conditions and the study intersections would operate at acceptable LOS. In addition, cumulative impacts would occur at the following study intersections:

- Nevada City Highway / Brunswick Road is anticipated to operate at LOS E during the PM peak hour.
- Brunswick Road / Town Talk (Site 7 & 8 Access Road) is anticipated to operate at an LOS F at the worst approach during the PM peak hour.
- SR 49 Northbound Ramps / McKnight Way is anticipated to operate at an LOS E during the PM peak hour.
- SR 49 / Combie Road is anticipated to operate at LOS F during the PM peak hour.

Figures 5.2-14-3a-b, *Intersection Mitigations – Cumulative plus Project Conditions*, provide a graphical representation of the proposed improvements to mitigate impacts under Cumulative plus Project Conditions.



Source: RBF Consulting 2013

GRASS VALLEY SOI STUDY AREA

COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

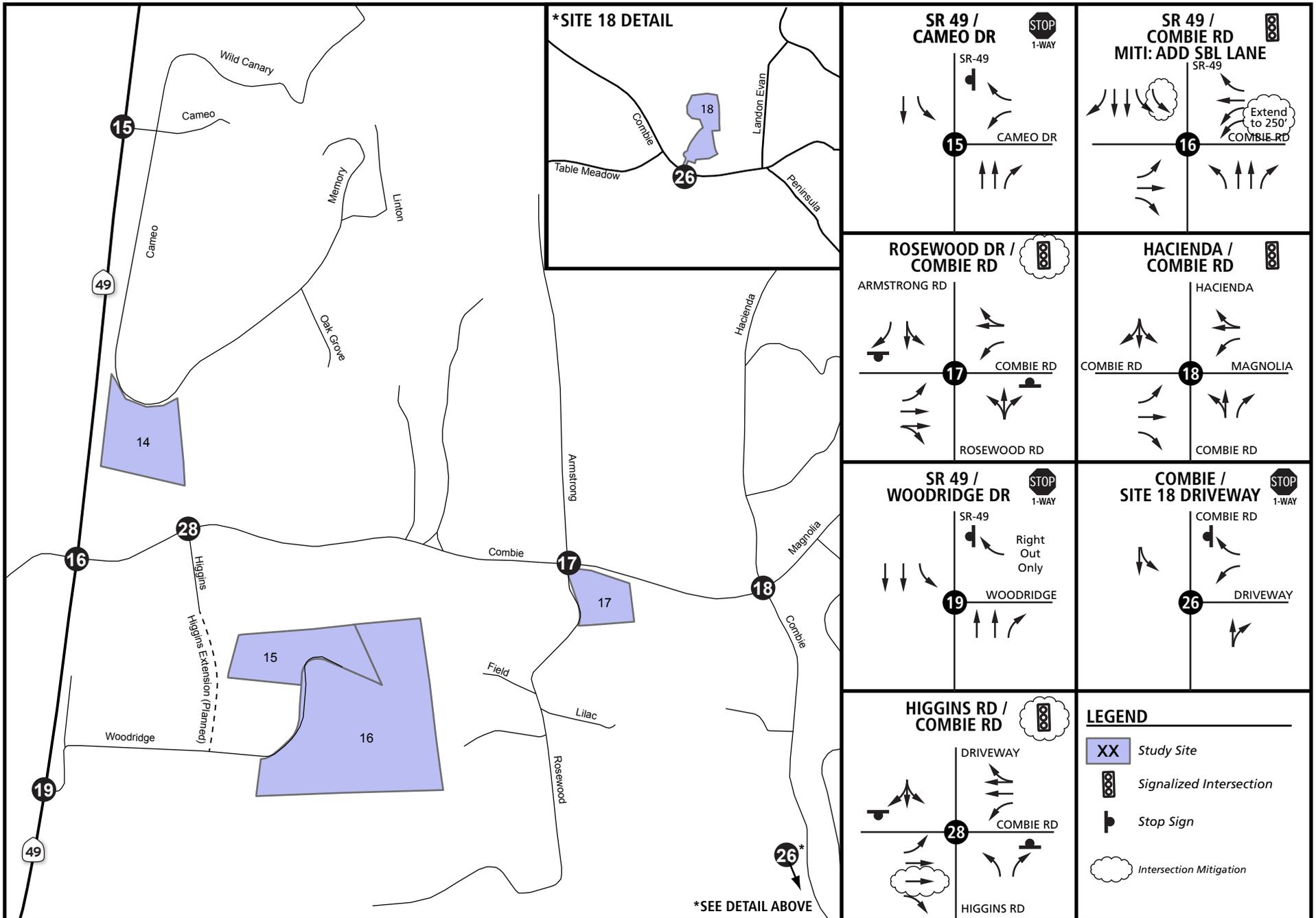


Not to Scale

Intersection Mitigations - Cumulative plus Project Conditions

4/21/2013 • JN 131242-18945

FIGURE 5.2.14-3A



Source: RBF Consulting 2013



Not to Scale

7/31/2013 • JN 131242-18945

LAKE OF THE PINES STUDY AREA
COUNTY OF NEVADA: 2009-2014 HOUSING ELEMENT REZONE PROGRAM IMPLEMENTATION EIR

Intersection Mitigations - Cumulative plus Project Conditions

FIGURE 5.2.14-3B

Potential Cumulative Project Impacts And Mitigation Measures

The following mitigation measures are intended to outline the anticipated responsible agency that has jurisdictional oversight of the regulations, specifications and design standards that apply to the required improvement. Sites 1-9 are located within the City of Grass Valley Sphere of Influence, and it is anticipated that they will require annexation prior to development, and therefore, the City is listed as the implementing/monitoring agency for the mitigation measures that apply to those sites. In the event that these sites do not annex into the City and do not require City services, the implementing/monitoring agency shall automatically default to the County of Nevada. In the event that the mitigation measure requires improvements to a City facility, such as an intersection already within the City limits, the City of Grass Valley shall remain as the implementing and monitoring agency regardless of whether or not the site is eventually annexed into the City.

5.2.14-1 *THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE SIGNALIZED INTERSECTION OF NEVADA CITY HIGHWAY AND BRUNSWICK ROAD. THIS INTERSECTION IS PROJECTED TO OPERATE AT LOS E (UNACCEPTABLE) IN THE PM PEAK HOUR.*

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

The intersection of Nevada City Highway and Brunswick Road is anticipated to operate at an unacceptable LOS E without the addition of project-generated traffic under cumulative conditions. The intersection is anticipated to continue to operate at LOS E with project traffic. However, the v/c ratio would increase by more than two percent, which is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure pertains to Sites 3 through 9.

- 5.2.14-1 Prior to issuance of a building permit, the project developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program towards the installation of signal timing at the intersection of Nevada City Highway and Brunswick Road to improve operations and meet future traffic volume demand. Signal timing splits shall be optimized based upon a cycle length of 90 seconds. This mitigation would improve the operation of the intersection to LOS D.

Timing Implementation: Prior to issuance of a building permit

Enforcement / Monitoring Agency: City of Grass Valley

Level of Significance After Mitigation: Significant and Unavoidable. While the proposed fair share contribution is expected to reduce cumulative impacts to less than significant, this impact remains significant and unavoidable because the County of Nevada does not have jurisdiction over the approval of funding or construction of the improvement within the City of Grass Valley.

5.2.14-2 *THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE INTERSECTION OF BRUNSWICK ROAD AND*

TOWN TALK ROAD. THIS INTERSECTION IS PROJECTED TO OPERATE AT AN OVERALL LOS E AND LOS F AT THE WORST APPROACH (UNACCEPTABLE) IN THE PM PEAK HOUR.

Level of Significance before Mitigation: Potentially Significant Impact

Impact Analysis

The intersection of Brunswick Road and Town Talk (Sites 7 & 8 Access Road) is anticipated to operate at overall LOS A and LOS E on the worst approach without the project. The addition of project traffic will deteriorate intersection operations to an overall LOS A and LOS F on the worst approach during the PM peak hour. This is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure pertains to Sites 3 through 9.

- 5.2.14-2 Prior to issuance of a building permit, the project developer shall install or fund the realignment of Triple Crown Road with Town Talk Road (Sites 7 and 8 access) into one intersection and the installation of a traffic signal. This measure will improve intersections of Brunswick Road / Triple Crown Drive and Brunswick Road / Town Talk Road / Bubbling Wells Road to LOS C during the PM peak hour. The intersection does meet peak hour Caltrans peak hour signal warrant for the installation of a traffic signal. The proposed mitigation includes one additional southbound right turn lane, one southbound left turn lane, one northbound left turn lane and one northbound right turn lane.

The developer and the City of Grass Valley should enter into a reimbursement agreement for the remaining portion of the improvement costs that are not the project developer's fair share.

Timing Implementation: Prior to issuance of a building permit.

Enforcement / Monitoring Agency: City of Grass Valley

Level of Significance After Mitigation: Significant and Unavoidable. While the proposed improvement is expected to mitigate the potential impacts to less than significant, this impact remains significant because the County of Nevada does not have jurisdiction over the approval of construction or timing of when the improvement would occur within the City of Grass Valley.

- 5.2.14-3 ***THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE INTERSECTION OF SR 49 NORTHBOUND RAMPS AND MCKNIGHT WAY. THIS INTERSECTION IS PROJECTED TO OPERATE AT OVERALL LOS E (UNACCEPTABLE) IN THE PM PEAK HOUR.***

Level of Significance before Mitigation: Potentially Significant Impact

Impact Analysis

The intersection of the SR 49 Northbound Ramps and McKnight Way is anticipated to operate at LOS D without the project an overall LOS E with the project traffic during the PM peak hour. This is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure pertains to Site 2.

- 5.2.14-3 Prior to the development of the project site, the Project Developer shall pay a fair share contribution to the City of Grass Valley Development Impact Fee Capital Improvement Program for the provision of the dual roundabouts on McKnight Way at the SR 49 interchange described in Mitigation Measure 4.15-3.

Timing Implementation: Prior to issuance of a building permit

Enforcement / Monitoring Agency: City of Grass Valley

Level of Significance After Mitigation: Significant and Unavoidable. While the proposed fair share contribution is expected to reduce cumulative impacts to less than significant, this impact remains significant and unavoidable because the County of Nevada does not have jurisdiction over the approval of funding or construction of the improvement within the City of Grass Valley.

5.2.14-4 ***THE PROPOSED PROJECT WOULD ADD TRAFFIC TO THE INTERSECTIONS OF SR 49 / COMBIE ROAD. THIS INTERSECTION IS PROJECTED TO OPERATE AT LOS E (UNACCEPTABLE) IN THE PM PEAK HOUR.***

Level of Significance Before Mitigation: Potentially Significant Impact

Impact Analysis

The intersection of SR 49 and Combie Road would operate at LOS E without project generated traffic and LOS E during the PM peak hour with the addition of the project generated traffic. The overall delay would increase by more than two seconds. This is considered a potentially significant impact.

Mitigation Measure:

The following mitigation measure pertains to Sites 14 through 18.

- 5.2.14-4 Prior to issuance of a building permit, the project developer shall pay a fair share contribution to the Nevada County RTMF program for the construction of an additional southbound left turn lane that is at least 325 feet in length shall be installed at the intersection of SR 49 and Combie Road. This improvement will improve operations at the intersection to LOS D during the PM peak hour. The addition of a southbound left turn lane is an identified improvement in the Nevada County Regional Transportation Plan and RTMF.

Timing Implementation: Prior to issuance of a building permit

Enforcement / Monitoring Agency: Nevada County

Level of Significance After Mitigation: Less Than Significant Impact

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