Volume II.A

SALT CREEK HEIGHTS

DRAFT ENVIRONMENTAL IMPACT REPORT - TECHNICAL APPENDIX

- Tentative Subdivision Map (S-15-07)
- Rezone Application (RZ-6-07)
- Planned Development Plan (PD-11-07)

RBF CONSULTING

Appendix 15.1
Initial Study/Notice of Preparation

CITY OF REDDING

DEVELOPMENT SERVICES DEPARTMENT
PLANNING DIVISION
777 Cypress Avenue, Redding, CA 96001-271
P.O. Box 496071, Redding, CA 96049-6071
530.225.4020 FAX 530.225.4495

SCOPING MEETING FOR SALT CREEK HEIGHTS SUBDIVISION

Date: September 5, 2008

To: Responsible and Trustee Agencies and Organizations

Subject: Scoping Meeting for Environmental Impact Report EIR-1-08
Salt Creek Heights Subdivision

On Tuesday, September 23, 2008, at 1:30 p.m., the City of Redding will hold a meeting with responsible and trustee agencies and organizations to determine the scope and content of the information that is to be included in the environmental impact report (EIR) being prepared for the Salt Creek Heights Subdivision project. The map on the back of this notice illustrates the project location. A copy of the project Initial Study/Notice of Preparation was previously forwarded to your agency/organization. That referral included a notice that a meeting open to the general public will be held on September 23, 2008, at 4 p.m. The above-referenced meeting at 1:30 p.m. is for agencies only. The meeting will be held in the Caldwell Park Conference Room, which is located on the second floor of City Hall at 777 Cypress Avenue, Redding, California.

If you will be attending, please contact Zach Bonnin at (530) 225-4020.

Sincerely,

Douglas DeMallie
Planning Manager

AgcyNtc-EIR0108-SaltCreek.wpd

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NOTICE OF PUBLIC MEETING
AND NOTICE INVITING PUBLIC TO PROVIDE SCOPING COMMENTS
FOR ENVIRONMENTAL IMPACT REPORT EIR-1-08
SALT CREEK HEIGHTS SUBDIVISION

Dear Property Owner:

The records of the Shasta County Assessor's Office indicate that you own property in or near the area shaded on the back of this notice. The map shows the properties encompassing the proposed Salt Creek Heights Subdivision project.

An informational presentation on the proposed subdivision will be made at the Redding Planning Commission meeting on Tuesday, September 23, 2008, at 4 p.m. The meeting will be held in the City Council Chambers at 777 Cypress Avenue, Redding, California. The purpose of this meeting is to solicit public comments on the scope and content of information to be included in an environmental impact report (EIR) being prepared for the subdivision. At this meeting, the proposed project will be described and the initial determination leading to the decision to prepare an EIR will be discussed. You are cordially invited to participate in this community meeting.

In summary, the Salt Creek Heights Subdivision consists of a proposal to develop approximately 272 acres of undeveloped land located on the west side of Redding, with approximately 100 acres suitable for development. The Project proposes the development of 440 residential units designed with a mix of housing types, including 248 standard single-family homes, 96 single-family homes on motor courts, and 96 apartment units. The proposed subdivision will require a rezone to apply the Planned Development Overlay District to the property. The Planned Development Overlay District will allow the Project to have the proposed variety of housing types, blending of General Plan densities, and flexibility in application of the City's zoning regulations.

If you have any questions concerning the Salt Creek Heights Subdivision project or this meeting, please contact Zach Bonnin in the Development Services Department, 777 Cypress Avenue, Redding, California, by telephone at 530-225-4020, or at zbonnin@ci.redding.ca.us.

Sincerely,

Douglas DeMallie
Planning Manager

DD:amf
08Ntc\PubScopMtg-EIR0108-SaltCreek.wpd
Dated: September 5, 2008

INITIAL STUDY/NOTICE OF PREPARATION

TENTATIVE SUBDIVISION MAP (S-15-07), REZONE APPLICATION (RZ-6-07) AND PLANNED DEVELOPMENT PLAN (PD-11-07) SALT CREEK HEIGHTS SUBDIVISION

CITY OF REDDING
DEVELOPMENT SERVICES DEPARTMENT
777 Cypress Avenue
Redding, California 96001

September 2008

ENVIRONMENTAL CHECKLIST FORM

1. **Project Title:** Tentative Subdivision Map S-15-07, Rezone Application (RZ-6-07), and Planned Development Plan (PD-11-07), Salt Creek Heights Subdivision

2. **Lead Agency Name and Address:** City of Redding Development Services Department, 777 Cypress Avenue, Redding, CA 96001

3. **Contact Person and Phone Number:** Zach Bonnin, Associate Planner, (530) 225-4020

4. **Project Location:** The City of Redding is located in central Shasta County in northern California, on the north end of the central valley. The City is situated approximately 155 miles north of the City of Sacramento and approximately 215 miles northeast of the City of San Francisco. The Project site is located at 4200 Eureka Way (APN's 204-030-036, -028, -027, and -023), within the western portion of the City of Redding (Township 32 North, Range 5 West, within portions of Sections 32 and 33 of MDBM) (refer to Exhibit 1, REGIONAL VICINITY). The Project site is located along the north side of Eureka Way (SR-299) at the western City limits. Salt Creek forms the western and northern boundaries of the proposed Project and Gold Run Creek forms the eastern Project boundary (refer to Exhibit 2, SITE VICINITY and Exhibit 3, AERIAL PHOTOGRAPH).

5. **Project Sponsor's Name and Address:** Sierra Pacific Industries, P.O. Box 496014, Redding, CA 96049

6. **General Plan Designation:** "Residential, 6 to 10 units per acre", "Residential, 2 to 3.5 units per acre", and "Greenway" (GWY)

7. **Zoning:** "RM-9" (Residential Mixed Housing Type, 9 units per acre), "RS-2" (Residential Single Family, maximum density of 3.5 units per acre), and "OS" (Open Space).

8. **Description of Project:** The proposed Project consists of approximately 272 acres of undeveloped land located on the west side of Redding, with approximately 100 are suitable for development. The Project proposes the development of 440 residential units (248 single-family units, 96 clustered single-family units, and 96 apartment units) designed with a mix of housing types, including single-family, multiple-family, cluster homes with motor courts, and custom home sites. The proposed subdivision will require a rezone to apply the Planned Development Overlay District to the property. The Planned Development Overlay will allow the Project to have the proposed variety of housing types, blending of General Plan densities, and flexibility in application of the City's zoning regulations (refer to refer to Exhibit 4, SUBDIVISION TENTATIVE MAP).

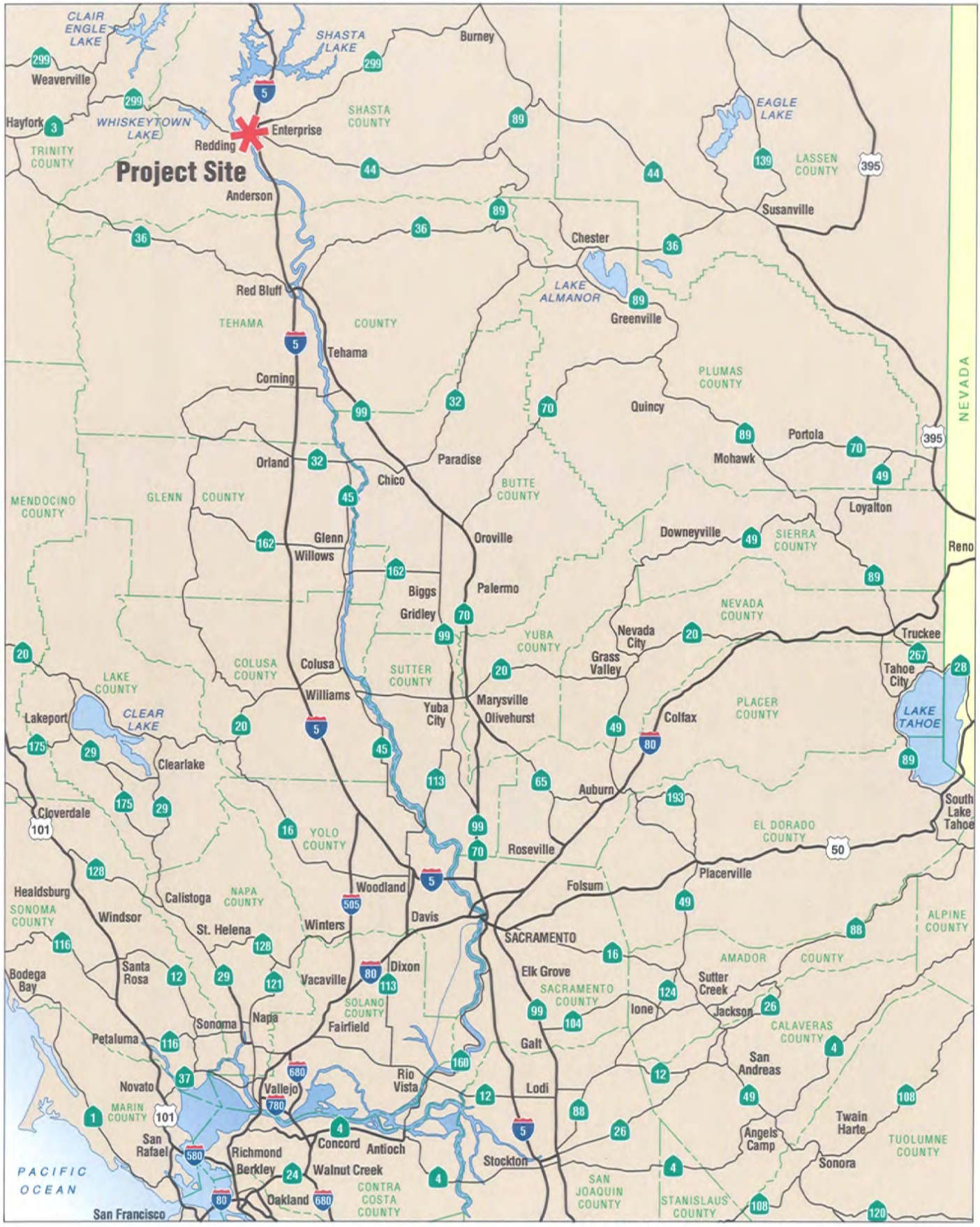
   Project Site Access. Access to the proposed Project will be provided by three streets; two of which are on Eureka Way (SR-299), and one through the future extension of Buenaventura Boulevard. One access point on SR-299, is located at the intersection of Eureka Way (SR-299) and Lower Springs Road. An internal road (labeled Road A on Exhibit 4) will provide access from this location to the proposed Project. A second proposed access point to SR-299 will be provided by a street location approximately 2,375 feet east of the SR-299/Lower Springs Road intersection. This internal road (labeled Road B on Exhibit 4) will provide connectivity from this access point to the proposed Project. A third access point will be provided via the extension of Buenaventura Boulevard, and will predominately serve the eastern portion of the Project via an internal road (labeled Road O on Exhibit 4).

   Infrastructure Improvements. The proposed Project will include all necessary on and off-site sewer, water, storm drain improvements to support the Project. The proposed Project's domestic water and sanitary sewer infrastructure consists of off-site mains that originate near SR-299. The proposed domestic water system is comprised of two separate off-site lines. The first water line connects at the existing subdivision located to the east of the proposed Project, then runs northwest along Buenaventura Boulevard to the proposed Project's eastern boundary. The second water line runs from a connection point at SR-299 and Ridge Drive, east along SR-299, then north along Wildwood Lane to the proposed Project's southern boundary. The proposed sewer main connects to an existing stub on SR-299, then runs northwest along Buenaventura Boulevard to the proposed Project's eastern boundary.

   Grading. Grading operations will occur during eight separate phases. This will result in balanced grading by borrowing any needed cut or placing any additional fill on an adjacent phase. The total grading will be balanced on-site; there will be no off-site transportation of grading materials.

   Subdivision Design. The proposed subdivision design includes the following features that would enhance the Project:

   - ☐ Extension of Buenaventura Boulevard to serve as primary access to the proposed development.
   - ☐ Two secondary access locations off of Eureka Way/SR-299.
   - ☐ Construction of an approximate 13.9-acre public park within the proposed development.



SALT CREEK HEIGHTS TENTATIVE SUBDIVISION MAP (S-15-07),
REZONE APPLICATION (RZ-6-07), AND
PLANNED DEVELOPMENT PLAN (PD-11-07) • INITIAL STUDY

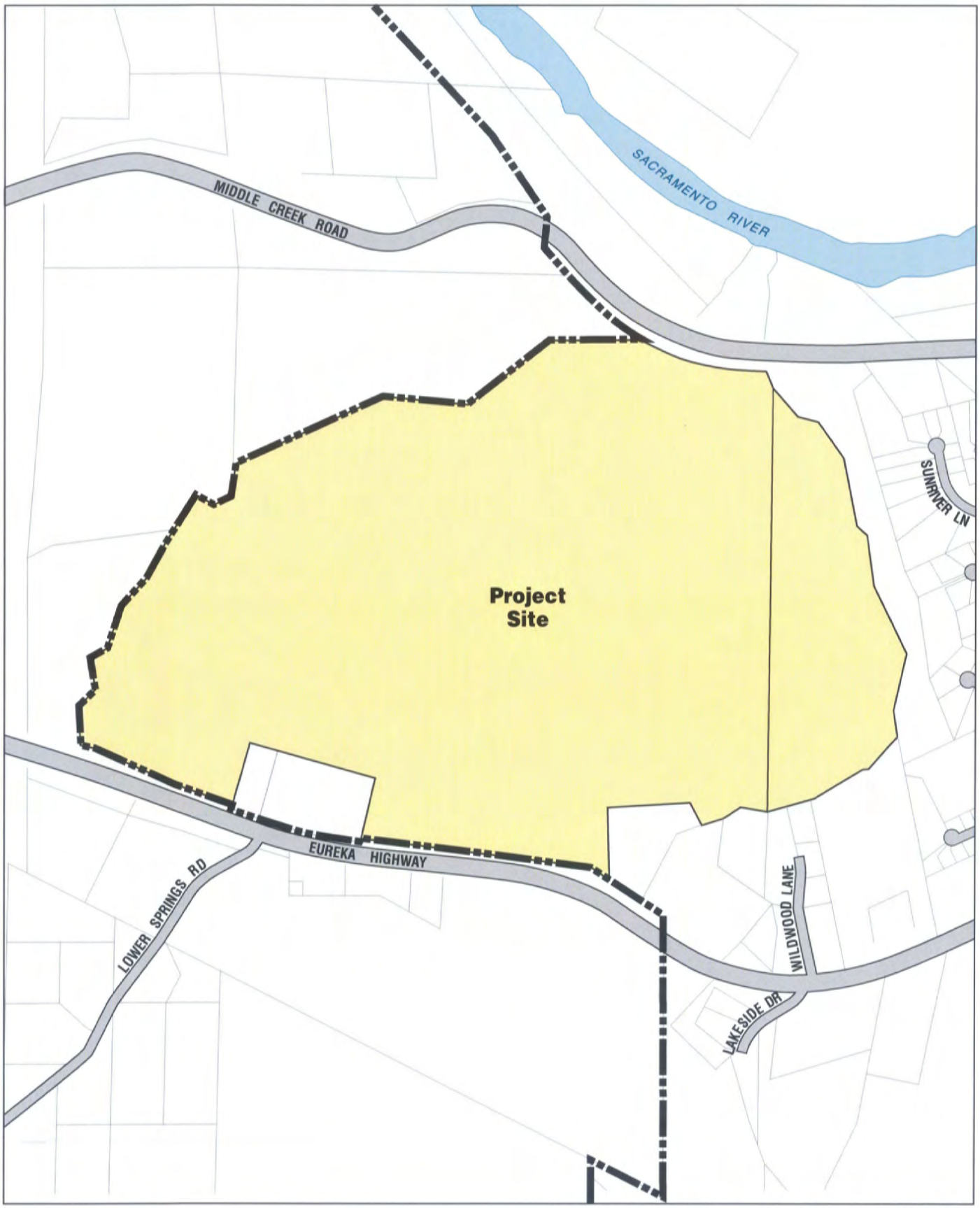
RBF CONSULTING

Not to scale

4/17/08 JN 60-100416-14960 MAS

Regional Vicinity

Exhibit 1



SALT CREEK HEIGHTS TENTATIVE SUBDIVISION MAP (S-15-07),
REZONE APPLICATION (RZ-6-07), AND
PLANNED DEVELOPMENT PLAN (PD-11-07) • INITIAL STUDY

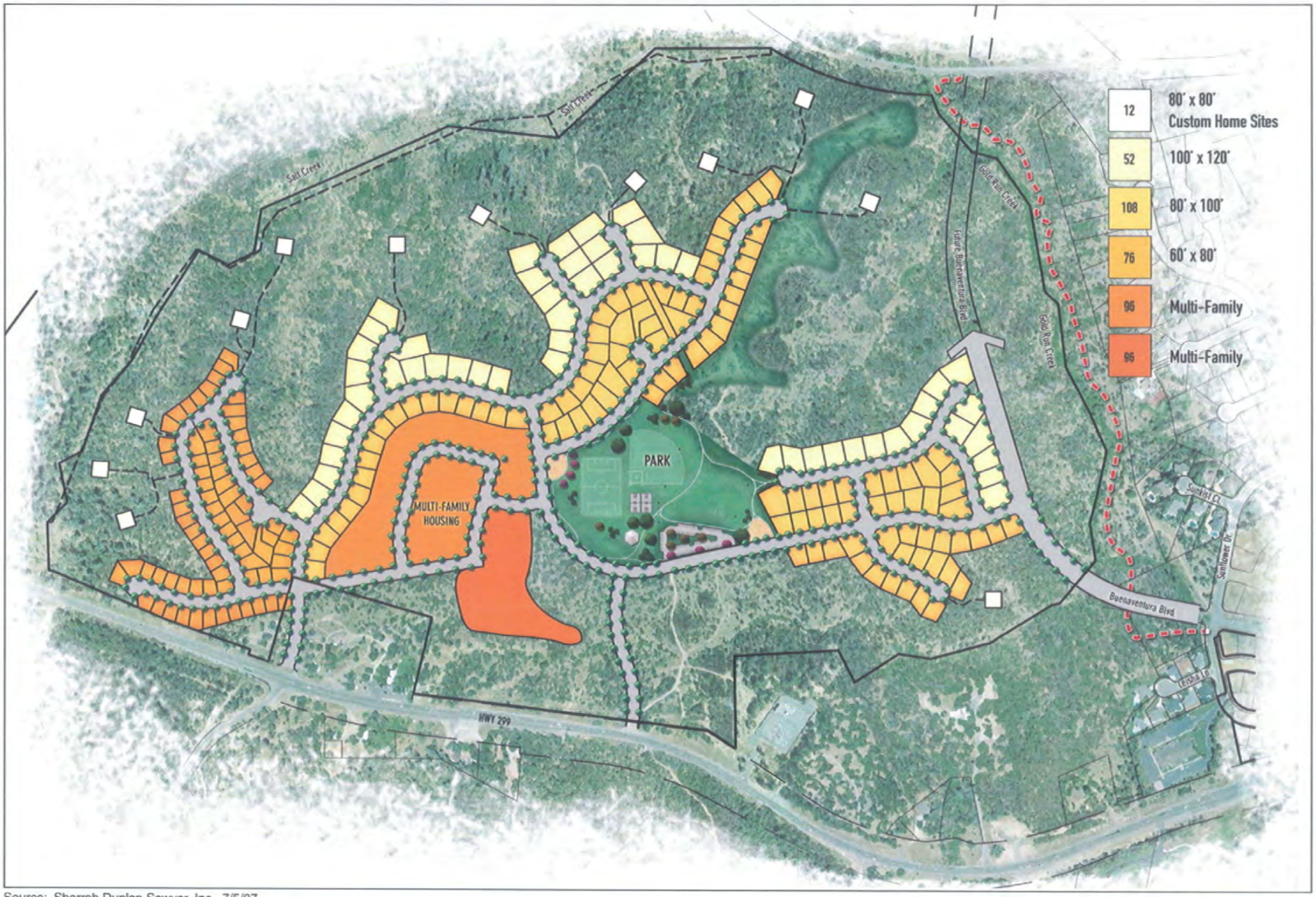
RBF CONSULTING

0 3500' APPROXIMATE

4/21/08 JN 60-100416-14960 MAS

Site Vicinity

Exhibit 2



Source: Sharrah Dunlap Sawyer, Inc., 7/5/07.

SALT CREEK HEIGHTS TENTATIVE SUBDIVISION MAP (S-15-07),
REZONE APPLICATION (RZ-6-07), AND
PLANNED DEVELOPMENT PLAN (PD-11-07) • INITIAL STUDY

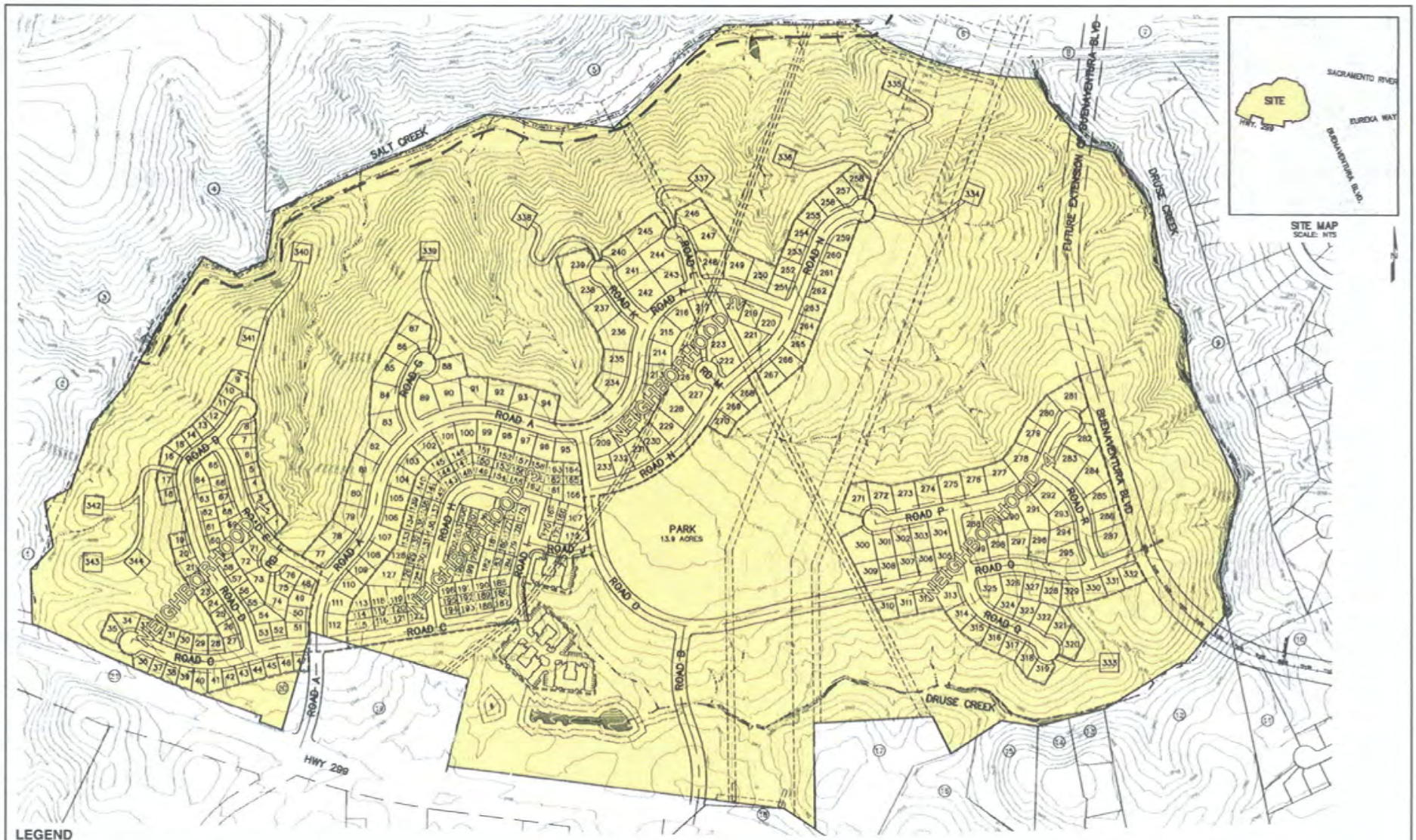
RBF CONSULTING

not to scale

6/2/08 JN 60-100416-14960 MAS

Aerial Photograph

Exhibit 3



LEGEND

- Streams (see Report Provided by ESA Dated Aug 2007)
- Creek Corridor Setback (25' from Riparian, 50' Top of Bank)
- Neighborhood Boundaries
- Wetlands
- 20% Slope
- 24-Unit Apartment Buildings

Source: Sharrah Dunlap Sawyer, Inc., 11/7/07.

RBF CONSULTING

0 600' APPROXIMATE

5/12/08 JN 60-100416-14960 MAS

SALT CREEK HEIGHTS TENTATIVE SUBDIVISION MAP (S-15-07), REZONE APPLICATION (RZ-6-07), AND PLANNED DEVELOPMENT PLAN (PD-11-07) • INITIAL STUDY

Subdivision Tentative Map

Exhibit 4

- ☐ Connection to the Buenaventura Trail via the proposed Project's Buenaventura Boulevard extension.
- ☐ A Development Agreement between the Project Applicant and the City for developer construction of the proposed public park in conjunction with the subdivision in exchange for credits towards the Project's city-wide park development impact fee obligation.

Economic Characteristics. Development of the proposed Project would have fiscal impacts on the City similar to all residential subdivisions, including additional streets to maintain, as well as the provision of police and fire service. Based on the average household size as recorded in the United States Census, the proposed residential uses would result in a direct population increase of approximately 1,118 persons (440 households x 2.47 persons per household = 1,118 persons).

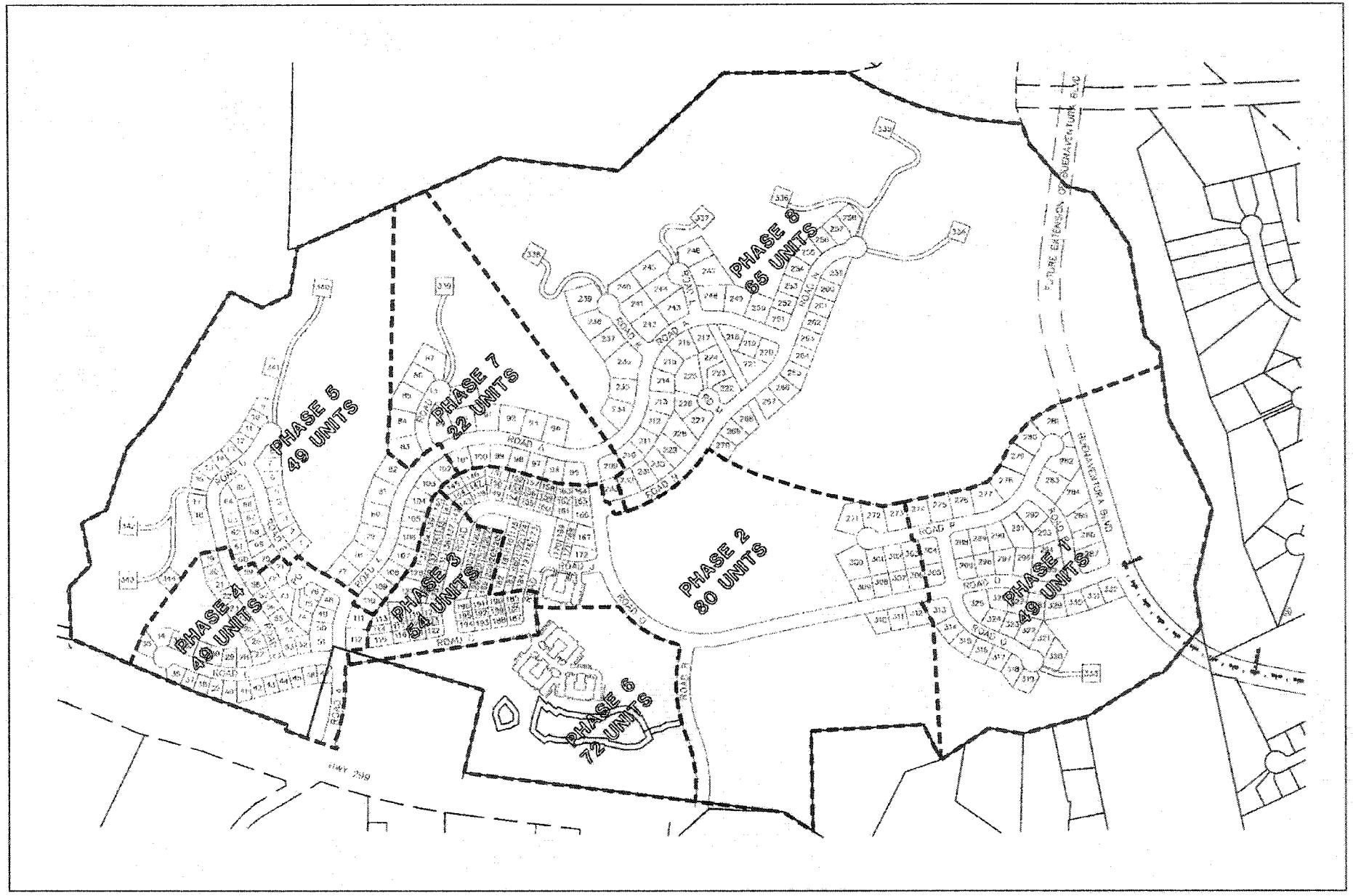
The City of Redding would provide public services to the proposed Project. These services include, but are not limited to police, fire, parks and flood control. The Project residents would generate revenue in the form of property taxes and fees, etc., which would be available to the City to fund public services to the proposed Project. Revenue for capital improvements would also be generated by the Project directly through various forms of development fees, including but not limited to, fire facilities, traffic, schools and parks.

Phasing. Implementation of the proposed Project will be constructed in eight phases over an anticipated eight year period. However, the pace of development would be ultimately predicated on economic conditions being conducive for buyers purchasing homes. It is assumed that infrastructure improvements for each phase will be constructed over an approximate a five month period depending on weather conditions and acquisition of necessary approvals from the various utility purveyors (refer to Exhibit 5, PRELIMINARY PHASING).

9. **On-Site and Surrounding Land Uses and Settings:** The proposed Project's topography varies from a nearly flat terrace at the center of the site, to moderately steep to very steep canyons. At the landscape level, the topography consists of incised canyons that slope to the northeast towards the Sacramento River. The hydrology of the proposed Project has been slightly altered due to past mining activities. Elevation within the proposed Project ranges from 520 feet above mean sea level (msl) to 740 feet above msl. Habitats occurring within and adjacent to the proposed Project include annual grassland, mixed chaparral, blue oak woodland, open water, riparian wetland, and seasonal wetland. In addition, Salt Creek forms the western and northern boundaries of the proposed Project and Gold Run Creek forms the eastern boundary of the Project. These drainages are fed primarily by surface water derived from direct precipitation and input from intermittent and ephemeral drainages. The only current land use within the proposed Project site are electric utility corridors, with several utility maintenance roads crossing the proposed Project site. The surrounding land uses consist of low density residential areas. Eureka Way (SR-299) forms the southern boundary of the proposed Project.

10. **Other public agencies whose approval is required (e.g., permits, financing approval or participation agreement).** The City as Lead Agency for the proposed Project has discretionary authority over the primary Project proposal. To implement this Project, the applicant may need to obtain, at a minimum, the following discretionary permits/approvals:

- Army Corps of Engineers: Clean Water Act Section 404 Permit.
- California Regional Water Quality Control Board. A Construction Activity Storm Water Permit and a Storm Water Pollution Prevention Plan shall be prepared in accordance with the requirements. In addition, A Section 401 Water Quality Certification (401 Certification) will be required.
- California Department of Fish and Game. A 1602 Streambed Alteration Agreement may be required.
- National Oceanic & Atmospheric Administration (National Marine Fisheries Service) and U.S. Fish & Wildlife Service. As the federal permitting agency for this Project, the Corps may request consultation with the National Oceanic & Atmospheric Administration (National Marine Fisheries Service) under Section 7 of the Federal Endangered Species Act (FESA).



Source: Sharrah Dunlap Sawyer, Inc., 11/7/07.

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RBF CONSULTING

0 600' APPROXIMATE

5/12/08 JN 60-100416-14960 MAS

Preliminary Phasing

Exhibit 5

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐	Land Use and Planning	☒	Biological Resources	☐	Aesthetics
☐	Population and Housing	☐	Mineral Resources	☒	Cultural Resources
☒	Geology and Soils	☒	Hazards and Hazardous Materials	☐	Recreation
☒	Hydrology and Water Quality	☒	Noise	☐	Agricultural Resources
☒	Air Quality	☒	Public Services	☒	Mandatory Findings of Significance
☒	Transportation/Circulation	☒	Utilities and Service Systems		

DETERMINATION. (To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☒

I find that the proposed project MAY have a significant effect(s) on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project. ☐

Signature

9/5/2008
Date: September 5, 2008

Bruce R. Grove Jr.
(Name)

Lead Agency Representative
(Title)

EVALUATION OF ENVIRONMENTAL IMPACTS

This section analyzes the potential environmental impacts associated with the proposed Project. The issue areas evaluated in this Initial Study include:

- Land Use and Planning
- Population and Housing
- Geology and Soils
- Hydrology and Water Quality
- Air Quality
- Transportation/Circulation
- Biological Resources
- Mineral Resources
- Hazards and Hazardous Materials
- Noise
- Public Services
- Utilities & Service Systems
- Aesthetics
- Cultural Resources
- Recreation

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the CEQA Guidelines and used by the City of Redding in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the development's impacts and to identify mitigation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- **No Impact.** The development will not have any measurable environmental impact on the environment.
- **Less Than Significant Impact.** The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.
- **Potentially Significant Impact Unless Mitigation Incorporated.** The development will have the potential to generate impacts which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.
- **Potentially Significant Impact**. The development will have impacts which are considered significant, and additional analysis is required to identify mitigation measures that could reduce these impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures will be required, so that impacts may be avoided or reduced to insignificant levels.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
I. LAND USE AND PLANNING. Would the proposal:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion

a. The proposed Project is designed in the City of Redding General Plan for "Residential, 6 to 10 units per acre", "Residential, 2 to 3.5 units per acre", and "Greenway" (GWY). Land uses adjacent to the proposed Project site include undeveloped land and the City of Redding's Sacramento River Trail to the north; single-family residential development and undeveloped land to the east; residential units, Old Millhouse Deli, the City of Redding Electric Substation, and SR-299/Eureka Way to the south; and residential units and undeveloped land to the west. In addition, Salt Creek is a natural barrier along the western and northern boundaries of the proposed Project and Gold Run Creek forms the eastern Project boundary. The proposed Project and its location do not have the potential to physically divide an established community. No impact has been identified.

b. Under the City's Zoning Ordinance, the proposed Project site is zoned "RM-9" (Residential Multiple Family Type, 9 units per acre), "RS-2" (Residential Single Family, maximum density of 3.5 units per acre), and "OS" (Open Space), and is designated "Residential, 6 to 10 units per acre", "Residential, 2 to 3.5 units per acre", and "Greenway" (GWY) in the City of Redding General Plan. The proposed subdivision will require a rezone to apply the Planned Development Overlay District to the property. The Planned Development Overlay will allow the Project to have the proposed variety of housing types, blending of General Plan densities, and flexibility in application of the City's zoning regulations. The proposed Project can be split into the following four neighborhoods. Refer to Table 1, DEVELOPMENT SUMMARY, and Exhibit 4, SUBDIVISION TENTATIVE MAP, below:

Table 1
DEVELOPMENT SUMMARY

NEIGHBORHOOD	NUMBER OF LOTS / UNITS / DENSITY
Neighborhood 1:	81 lots
Neighborhood 2:	104 lots
Neighborhood 3:	192 lots
Total Units:	377 units
Developed Area:	86.1 acres
Park Area:	13.9 acres
Area in Right-of-Way:	19.9 acres
Net Area:	53.2 acres
Net Density:	7.1 dwelling units/acre; 6,146 square feet/unit
Neighborhood 4:	63 lots
Total Units:	63 units
Developed Area:	24.7 acres
Net Density:	2.6 dwelling units/acre

The existing subdivision located to the east of the proposed Project is comparable in size, and shares the same General Plan designation as the proposed Project ("Residential, 2 to 3.5 units per acre" and zoning designation of "RS-2"). No significant impact has been identified.

c. There are no habitat conservation plans or natural community conservation plans that are applicable to the proposed Project site. The Project is consistent with the goals stated in the Natural Resources Element of the City of Redding General Plan. No impact has been identified.

Documentation

City of Redding General Plan Community Development and Design Element, 2000
City of Redding General Plan Final Environmental Impact Report, 2000
City of Redding Natural Resources Element, 2000
City of Redding Zoning Ordinance, 2002

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
II. POPULATION AND HOUSING. Would the proposal:				
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	❑	❑	☒	❑
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	❑	❑	❑	☒
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	❑	❑	❑	☒

Discussion

a. The Project proposes the construction of approximately 440 residential units. This would occur on a site that is currently vacant. Based on the 2000 Census, the estimated population that would reside on the proposed Project site at buildout would be approximately 1,118 persons (440 households x 2.47 persons per household = 1,118 persons). The proposed Project would not induce unplanned population growth not anticipated by the General Plan; therefore, impacts are less than significant.

b, c. The proposed Project would create opportunity for the construction of approximately 440 residential units, designed with a mix of housing types include single-family, multi-family, cluster homes with motor courts, and custom homes sites, as planned and anticipated by the City of Redding General Plan. The proposed Project is similar in character to that in surrounding residential subdivisions to the east. The proposed Project would not induce unplanned population growth not anticipated by the General Plan. The proposed Project would not displace people or any existing housing. No impact has been identified.

Documentation

City of Redding General Plan Housing Element, 2000
U.S. Census Bureau, 2000.

Mitigation

Further analysis regarding population and housing will be addressed in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
III. GEOLOGY AND SOILS. Would the proposal:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
(1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☒	☐	☐	☐
(2) Strong seismic ground-shaking?	☒	☐	☐	☐
(3) Seismic-related ground failure, including liquefaction?	☒	☐	☐	☐
(4) Landslides?	☒	☐	☐	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☒	☐	☐	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Discussion

a. (1) & a. (2) The impact of earthquakes on the Project site depends on several factors including the particular fault, fault location, distance from the Project site, and magnitude of the earthquake. Each of these factors can help determine the degree of shaking that could occur in the Project area. Future structures proposed on the Project site are required by State law and City ordinance to be constructed in accordance with the Uniform Building Code and to adhere to all modern earthquake construction standards, including those relating to soil characteristics. However, impacts are potentially significant and will be further evaluated in the EIR.

a. (3), c. & d. Liquefaction potential is a combination of unconsolidated soil type and high groundwater combined with high potential seismic activity. Refer to Response III. (a)(1), above. Further analysis is required as part of the EIR.

a. (4) The proposed Project site and its surroundings contain moderately steep to very steep canyons, and areas that have 20 percent and greater slopes, which could be susceptible to landslides. In addition, mining activities that took place on the proposed Project site may have modified the landscape, increasing the potential for landsliding. Refer to Response III. (a)(1), above. Further analysis is required as part of the EIR.

b. According to the Shasta County Area California Soil Survey (NRCS 2006), the proposed Project site contains five soil units: Auburn loam, 0 to 8 percent slopes (AnB), Auburn very stony clay loam, 30 to 50 percent slopes, eroded (AtE2), Auburn very rocky clay loam, 50 to 70 percent slopes, eroded (AUF2), Goulding very stony loam, 10 to 30 percent slopes (GdD), Goulding very rocky loam, 30 to 50 percent slopes (GeE2), Newton gravelly loam, 8 to 15 percent slopes (NeC), and Red Bluff gravelly loam, moderately deep, 3 to 8 percent slopes (RcB). Red Bluff gravelly loam comprises the majority of the soil on the proposed Project site. The Red Bluff gravelly loam soils is moderately well drained soil that occurs on hills and terraces. Permeability is moderately slow and surface runoff is slow to medium. Goulding very rocky loam (GeE2) is found along the northern portion of the proposed Project and consists of excessively drained soil that occurs on mountains. This soil has moderate permeability and surface runoff is medium to very rapid.

Preliminary plans indicate that site grading will be limited to areas outside Salt Creek and Gold Run Creek and associated riparian areas. According to the proposed site plan, there are no existing or proposed structures within 200 feet of either Salt Creek or Gold Run Creek. Approximately 110 acres will result in the grading (cut and fill) in order to facilitate street construction, provide utilities, and create

building pads for the proposed Project. The proposed modification to the surface terrain is typical to subdivision development and, based on the site soils, is not expected to alter the susceptibility of the land to unstable earth conditions or erosion. Standard grading-control measures are applicable to the proposed Project as City ordinances and other government agency regulations will be applied. This City of Redding Grading Ordinance requires the application of "Best Management Practices" (BMPs) in accordance with the City Erosion and Sediment Control Standards Design Manual (Redding Municipal Code Section 16.12.060, Subsections C, D, E). In practice, specific erosion-control measures are determined upon review of the final subdivision grading plan and are tailored to Project-specific grading impacts. This will ensure that potential grading impacts are less than significant. Due to City of Redding policy regarding grading on slopes in excess of 20 percent this type of activity is severally restricted.

Additionally, the proposed Project is subject to certain erosion-control requirements mandated by existing City and State regulations. These requirements include:

- California Department of Fish and Game. A 1602 Streambed Alteration Agreement may be required.
- *City of Redding Grading Ordinance.* This ordinance requires the application of "Best Management Practices" (BMPs) in accordance with the City Erosion and Sediment Control Standards Design Manual (Redding Municipal Code Section 16.12.060, Subsections C, D, E). In practice, specific erosion-control measures are determined upon review of the final subdivision grading plan and are tailored to project-specific grading impacts.
- *California Regional Water Quality Control Board "Construction Activity Storm Water Permit."* This permit somewhat overlaps the City's Grading Ordinance provision by applying State standards for erosion-control measures during construction of the project.
- *California Regional Water Quality Control Board "Project Storm Water Pollution Prevention Plan (SWPPP)."* This plan emphasizes stormwater best management practices and is required as part of the Construction Activity Storm Water Permit. The objectives of the SWPPP are to identify the sources of sediment and other pollutants that affect the quality of stormwater discharges and to describe and ensure the implementation of practices to reduce sediment and other pollutants in stormwater discharges.
- *California Department of Fish and Game (DFG) "1600 Agreement."* This notification is required for any work within a defined streambed and bank.
- *U.S. Army Corps of Engineers Nationwide Permit.* An Individual or Nationwide Permit is required from the U.S. Army Corps of Engineers to address impacts to jurisdictional waters. The project does or does not propose as there are or are none proposed to be disturbed on the site proposed to be disturbed.

Standard City of Redding Conditions incorporated into the project will include the following:

1. All applicable provisions of the City of Redding Grading Ordinance (RMC Chapter 16.12) shall be met. Grading shall be of a scale that the work can be completed in a single construction season.
2. The developer shall obtain a Construction Activity Storm Water Permit from the State Water Quality Control Board prior to commencement of construction of the subdivision in order to protect water quality from development activities. A Storm Water Pollution Prevention Plan (SWPPP) must be prepared prior to construction activities in order to identify potential pollutants and to eliminate or reduce those pollutants from entering stormwaters.
3. Points of discharge from project drainage systems into the Salt Creek and Gold Run drainage shall include water-velocity attenuation improvements or any other measures necessary per the requirements of the City Engineer to prevent earth scouring, siltation of the Sacramento River, and erosion.
4. The developer shall acquire all necessary letters of approval and/or permits from the Department of Fish and Game for altering or working within any natural drainage course prior to the commencement of grading activities and/or construction of utility and storm- drainage infrastructure.

Actions for compliance with these regulations are addressed under standard conditions of approval, which are uniformly applied to all land development projects. Since the project is subject to uniformly applied ordinances and policies and the overall risk of erosion is not high, potential impacts related to soil erosion and sedimentation are less than significant.

e. The proposed Project does not involve the use of septic tanks or alternative wastewater disposal. No impact has been identified.

Documentation

City of Redding Grading Ordinance (RMC Chapter 16.12), 2003
City of Redding General Plan Background Report 1998
Soil Survey of Shasta County, August 1974
Salt Creek Heights Project Wetland Delineation Report, ESA, October 2007
Preliminary Grading Plan for Salt Creek Heights

Mitigation

Further analysis regarding geology / soils and feasible mitigation will be addressed in the EIR.

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

Discussion

a, c, f. Implementation of the proposed Project would result in development and site runoff potentially contributing typical roadway pollutants to existing drainage facilities. Typical roadway-related pollutants primarily include oil, grease, and petroleum derivatives. These impacts are potentially significant and will be further evaluated in the EIR.

Future residential units in the proposed Project would be served by City sanitary sewer service; therefore, the proposed Project would not involve any permitted discharges of waste material into ground or surface waters. In regards to water quality standards, the applicant shall prepare a Notice of Intent, a Storm Water Pollution Prevention Plan, and post construction storm water development plans, in order to comply with the California Regional Water Quality Control Board requirements.

California Regional Water Quality Control Board "General Permit for Storm Water Discharges Associated with Construction Activity." This permit somewhat overlaps the City's Grading Ordinance provision by applying State standards for erosion-control measures during construction of the proposed Project.

California Regional Water Quality Control Board "Storm Water Pollution Prevention Plan (SWPPP)." This plan emphasizes stormwater BMPs and is required as part of the General Permit for Storm Water Discharges Associated with Construction Activity. The objectives of the SWPPP are to identify the sources of sediment and other pollutants that affect the quality of stormwater discharges and to describe and ensure the implementation of practices to reduce sediment and other pollutants in stormwater discharges.

b. The proposed Project would utilize City of Redding water service for domestic uses and fire protection; therefore, groundwater supplies would not be impacted. There are no known wells on or near the proposed Project that could be impacted by construction. Compliance with the City of Redding General Plan policies will preserve and protect the quantity and quality of groundwater resources as a result of new development. These policies include NR3A, B, and E, which recommend: (1) maintaining the natural condition of waterways and floodplains to the extent feasible, (2) maintaining given flood-control requirements; (3) complying with the State Regional Water Quality Control Board's regulations and standards to maintain and improve groundwater quality; and (4) working with appropriate State, Federal, and local agencies to protect, improve, and enhance groundwater quality in the region. Impacts are less than significant in this regard.

d. The proposed Project would introduce impervious surfaces to an area that currently has very few. Development such as buildings, driveways, and streets would lay down surfaces that would not allow precipitation to percolate into the ground. The additional impervious surface would generate additional surface runoff that, if uncollected, would increase potential flooding. Therefore, the impacts of additional drainage on flooding are considered potentially significant and will be further evaluated in the EIR.

e. The proposed drainage system for the Project has not been evaluated to determine its adequacy to handle the additional runoff that would be generated with development. The additional runoff could also carry potential pollutants, such as silt and sediment, oil and grease, floatable trash, nutrients, (including fertilizers), heavy metals, pathogens (such as coliform bacteria), and other substances. These impacts are potentially significant and will be further evaluated in the EIR.

g, h. Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area. The proposed Project is located on two FEMA Flood Insurance Rate Maps (Panel ID: 0603602580E and 0603602585E), and is in the 'X' zone for each panel. These areas have been identified in the FEMA community flood insurance study as areas of moderate or minimal hazard from the principal source of flood in the area. Additionally, according to the *City of Redding Master Storm Water Plan and the General Plan*, the proposed Project site is not located in a FEMA 100 year flood plain. Less than significant impacts are anticipated in this regard and no homes are proposed to be located within or near a floodzone.

i. Two major dams are located in the general vicinity of the proposed Project: the Shasta Dam and Wiskeytown Dam. The anticipated inundation resulting from the unlikely failure of these dams has been documented in the City of Redding General Plan. According to this documentation, the proposed Project would not be affected by the unlikely failure of either of these dams. Additionally, there are no levees near the proposed Project.

j. The threat of a tsunami wave is not applicable to inland, central valley communities such as Redding. Seiches could potentially be generated in either Shasta or Whiskeytown Lakes during an earthquake. However, neither lake has been identified in the Health and Safety Element of the General Plan as having any risk to the City under such circumstances. In addition, there is no documented threat of mudflows affecting the proposed Project site. No impact has been identified.

Documentation

Federal Emergency Management Agency Map Service Center: http://msc.fema.gov
City of Redding General Plan Health and Safety Element, 2000
City of Redding General Plan Figure 8-3 (100-Year Floodplain), 2000

Mitigation

Necessary construction and post construction water quality control measures will be further evaluated in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
V. AIR QUALITY. Would the proposal:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Discussion

a, b, c. Shasta County, including the far northern Sacramento Valley, currently exceeds the State's ambient standards for ozone (smog) and particulates (fine, airborne particles). Consequently, these pollutants are the focus of local air quality policy, especially when related to land use and transportation planning. Even with application of measures to reduce emissions for individual projects, cumulative impacts are unavoidable when ozone and/or particulate emissions are involved. For example, the primary source of emissions contributing to ozone is from vehicles. Any project that generates vehicle trips has the potential of contributing incrementally to the problem. The Environmental Impact Report for the City of Redding General Plan acknowledged this dilemma; and as a result, Findings and a Statement of Overriding Considerations were adopted by the City Council for impacts to air quality resulting from growth supported under the General Plan.

Emission-reduction goals of 20 to 25 percent are established depending on the projected level of unmitigated emissions for a project. Mitigation thresholds are established for the important regional/local pollutants, including: Reactive Organic Gases (ROG) and Oxides of Nitrogen (NOx), which are ozone precursors, and Inhalable Particulate Matter, 10 Micron (PM_{10}). The mitigation thresholds for these pollutants are tiered at two levels as follows:

Level "A"	**Level "B"**
25 pounds per day of NOx	137 pounds per day of NOx
25 pounds per day of ROG	137 pounds per day of ROG
80 pounds per day of PM_{10}	137 pounds per day of PM_{10}

If a project has unmitigated emissions less than the Level "A" threshold, then it is viewed as a minor project (from an air quality perspective) and only application of Standard Mitigation Measures (SMMs) is required to try to achieve at least a 20 percent reduction in emissions, or the best reduction feasible otherwise. Land uses that generate unmitigated emissions above Level "A" require application of appropriate Best Available Mitigation Measures (BAMMs), in addition to the SMMs, in order to achieve a net emission reduction of 20 percent or more. If, after applying SMMs and BAMMs, a use still exceeds the Level "B" threshold, then a minimum of 25 percent of the unmitigated emissions exceeding 137 pounds per day must be offset by reducing emissions from existing sources of pollution; otherwise, an Environmental Impact Report is required.

Under policy of the Air Quality Element, a project has the potential to impact air quality primarily in two ways: (1) the project would generate vehicle trip emissions (with NOx, ROG, and PM_{10}) that contribute cumulatively to local and regional air quality conditions; and (2) fugitive dust (particulate/PM_{10}) emissions are possible during construction activities. As a residential development, a project does not have the potential to generate significant emission concentrations of other pollutants subject to State and Federal ambient air quality standards.

The proposed Project is expected to contribute emissions by a substantial amount; therefore, impacts are considered potentially significant. In order to calculate the unmitigated emissions for the key pollutants noted above, further analysis as part of the EIR is required.

Carbon Monoxide Hotspots. In addition to air quality modeling that will be performed using URBEMIS 2002, the Project will be analyzed for localized carbon monoxide hotspots. Carbon monoxide emissions are a function of vehicle idling time, meteorological conditions and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affect residents, school children, hospital patients, the elderly, etc.). Localized carbon monoxide hotspots are typically produced where traffic congestion is the highest and where vehicles queue and are subject to reduced speed.

Global Climate Change. California is a substantial contributor of global greenhouse gases, emitting over 400 million tons of carbon dioxide (CO2) each year. Climate studies indicate that California is likely to see an increase of three to four degrees Fahrenheit over the next century. Methane is also an important greenhouse gas that potentially contributes to global climate change. Greenhouse gases are global in their effect, which is to increase the earth's ability to absorb heat in the atmosphere. Because primary greenhouse gases have a long lifetime in the atmosphere, accumulate over time, and are generally well mixed, their impact on the atmosphere is mostly independent of the point of emission.

Assembly Bill 32 (Global Warming Solutions Act) (AB-32) was passed by the California Legislature on August 31, 2006. It requires the State's global warming emissions to be reduced to 1990 levels by 2020. The reduction would be accomplished through an enforceable statewide cap on global warming emissions that would be phased in starting in 2012. On or before June 30, 2007, the California Air Resources Control Board (CARB) was required to publish a list of discrete greenhouse gas emissions that can be implemented. Emission reductions shall include carbon sequestration projects and best management practices that are technologically feasible and cost-effective. However, AB-32 does not provide thresholds or methodologies for analyzing a project's impacts regarding global climate change. AB-32 primarily provides a timeframe for establishing plans, policies, and studies to address global climate change.

Executive Order S-3-05 also recognized the importance of preparedness in that it directed the Secretary of the California Environmental Protection Agency (Cal EPA) to lead an effort to evaluate the impacts of climate change on California and to examine adaptation measures that would best prepare the state to respond to the adverse consequences of climate change. In response to S-3-05, the Climate Action Team (CAT) was convened, which comprised representatives from Cal EPA, CARB, Integrated Waste Management, California Energy Commission, and sever other state departments. The CAT prepared the *Climate Action Team Report to Governor Schwarzenegger and the Legislature* (dated March 2006), which provides an overview of scientific evidence regarding climate change as well as potential effects on California. The report also provides recommendations regarding strategies the state should pursue to reduce climate change emissions. Impacts are considered potentially significant and further analysis of Global Warming emissions will be provided in the EIR.

d. The proposed Project may generate PM_{10} emissions due to construction activities. Although these emissions would cease with the completion of construction work, residences adjacent to the proposed Project could be exposed to elevated dust levels. Additionally, after construction is completed, adjacent residences could be exposed to PM_{10} emissions generated by possible wood stoves and

fireplaces on the Project site. Ozone emissions generated by the proposed Project could also have adverse impacts on adjacent residences. Therefore, impacts are considered potentially significant and will be further evaluated in the EIR.

e. The proposed Project consists of residential development, and does not involve land use that could generate objectionable odors affecting a substantial number of people. No impact has been identified.

Documentation

Shasta County APCD Air Quality Maintenance Plan and Implementing Measures
Redding General Plan Environmental Impact Report, 2000
Redding General Plan Natural Resources and Air Quality Elements, 2000
Assembly Bill 32 (Global Worming Solutions Act)

Mitigation

A detailed Air Quality Analysis and feasible mitigation measures will be included in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. TRANSPORTATION/CIRCULATION. Would the proposal:				
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☒	☐	☐	☐
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c. 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?	☐	☐	☐	☒
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
e. Result in inadequate emergency access?	☐	☐	☒	☐
f. Result in inadequate parking capacity?	☐	☐	☐	☒
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐

Discussion

a, b. Access to the proposed Project will be provided by three street connections ; two of which are on Eureka Way (SR-299), and one through the future extension of Buenaventura Boulevard. One access point on SR-299, is located at the intersection of Eureka Way (SR-299) and Lower Springs Road. An internal road (labeled Road A on Exhibit 4) will provide access from this location to the proposed

Project. A second proposed access point to SR-299 will be provided by a street location approximately 2,375 feet east of the SR-299/Lower Springs Road. This internal road (labeled Road B on Exhibit 4) will provide connectivity from this access point to the proposed Project. A third access point will be provided via the extension of Buenaventura Boulevard, and will predominately serve the eastern portion of the Project via an internal road (labeled Road O on Exhibit 4). Given the proposed number of residential units, the Project is expected to generate a significant increase in traffic volumes on local roadways. To address potential increases in traffic volumes (including cumulative traffic impacts), pedestrian safety, LOS standards and traffic load/capacity concerns, the Traffic Impact Analysis that was prepared for the proposed Project will be examined and incorporated into the EIR.

c. The proposed Project site is located outside the Approach Zones for both the Redding Municipal Airport and Benton Airpark; therefore, there is no potential to interfere with Airport operations.

d. The proposed Project is expected to increase traffic volumes on local roadways. It is possible that some of the existing local roadways and intersections may not be designed to accommodate the volume of traffic that would occur as a result of the proposed Project. This could lead to increased safety hazards. This impact is potentially significant and will be further evaluated in the EIR.

e. City of Redding General Plan Health and Safety Policies HS4J and HS4I generally require that residential neighborhoods having 50 or more dwelling units have at least two points of public-street access, and that cul-de-sac or dead-end street lengths not exceed 600 feet. In accordance with this policy, two points of public street access will be provided at the time when the project exceeds 49 dwelling units. The primary access for the proposed Project is on SR-299, and is located at the intersection fo Eureka Way (SR-299) and Lower Springs Road. For consistency with the Health and Safety Element of the *General Plan*, a second proposed Project access location will be provided by a driveway location approximately 2,375 feet east of the SR-299/Lower Springs Road. This internal road (labeled Road B on the proposed site plan) will provide connectivity from this access location to the proposed Project. A third proposed Project access location will be provided from the future extension of Buenaventura Boulevard, and will predominately serve the eastern portion of the proposed Project via an internal road (labeled Road O on the proposed site plan). This impact is considered less than significant.

f. All homes within the subdivision will be required to provide a minimum of two on-site covered parking spaces in accordance with the City's Parking Ordinance (RMC Chapter 18.62). No impact is anticipated.

g. The proposed Project will not conflict with adopted policies, plans, or programs supporting alternative transportation Although bus routes do not currently serve the proposed Project, the Redding Area Bus Authority (RABA) currently operates one route within two miles of the proposed Project. Route 2 runs north along portions of Eureka Way, with a bus stop on Buenaventura Boulevard (west side) at Eureka Way. According to the Redding Parks, Trails, and Bikeways Map, SR-299 is identified as a Caltrans Bikeway. An existing multi-purpose trail is located north of the proposed Project, along the Sacramento River, and a proposed multi-purpose trail is located to the east of the Project. Redding General Plan Policy T6B requires new neighborhoods to provide pedestrian-dedicated facilities and Policy T9E requires new development to provide bicycle facilities or pay in-lieu fees. Policy consistency will be evaluated in the EIR.

Documentation

City of Redding General Plan Transportation Element, 2000
Salt Creek Heights Traffic Impact Study, by Omni-Means, prepared January 2008
City of Redding Parks, Trails and Bikeways Map: http://ci.redding.ca.us/CommunityServices/docs/ParkMaster/map8_trails.pdf

Mitigation

A detailed Traffic Impact Analysis and feasible mitigation measures will be included as part of the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. BIOLOGICAL RESOURCES. Would the proposal:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

a, c, d. Plants. The existing biological resources report indicates that there are no sensitive plant species on the site; however, eight protected blue elderberry shrubs (*Sambucus mexicanus*) were identified clustered in two locations on the proposed Project site. The Valley Long-horned Elderberry Beatle is a protected species and the plants are critical to their survival. This topic is potentially significant and will be further addressed in the EIR.

Wildlife. The overall potential for intensive use of habitats within the proposed Project site by sensitive wildlife species is considered moderate, meaning the Project site and/or immediate area provide suitable habitat for a protected species, and proposed development may impact this species. The site could contain nesting trees for raptor species or migratory birds during the spring to early summer nesting season. No large raptor nests were observed; however, tall trees exist on the property and may provide suitable habitat for bird species.

Additionally, Salt Creek is connected to the Sacramento River and could potentially contain state and federally listed salmonid species. Potential impacts to nesting raptors, other migratory birds, and salmonid species are potentially significant and will be further addressed in the EIR.

Wetlands/Jurisdictional Waters. The wetland delineation report indicates a total of 7.55 acres of potential jurisdictional features occur with the proposed Project. Jurisdictional features include eleven wetlands (3.73 acres) and 68 other waters of the U.S. (3.82 acres) Wetlands within the proposed Project include 3.65 acres of riparian wetland and 0.08 acres of seasonal wetlands. Other waters of the U.S. within the study area include 0.35 acres of perennial stream, 2.22 acres of intermittent stream and 1.26 acres of ephemeral stream. All necessary 404 permits from the Army Corps of Engineers and 1600 permits from the Department of Fish and Game shall be obtained. This topic is potentially significant and will be further addressed in the EIR.

b. Riparian areas are limited to areas adjacent to Salt Creek and Gold Run Creek. A 25 to 50 foot-wide creek corridor setback is being maintained as required by Section 18.48 of the Zoning Code, River Creek Corridor Development. This impact is less than significant.

e. The *General Plan* has a number of policies regarding the protection of natural resources and habitats. These policies address the reservation of habitat for fish and wildlife, creek corridors, vernal pools, riparian areas, wetlands migratory corridors, and open space preservation. In addition, the City has adopted a Tree Management Ordinance (Chapter 18.45 of the Redding Municipal Code) that promotes the conservation of mature, healthy trees in the design of new development. The ordinance recognizes that the preservation of trees will sometimes conflict with normal land development consideration. Section 18.45.070(D) encourages the set-aside of natural areas to further tree preservation as proposed by the proposed Project and preservation of any unique or extraordinary tree specimens. All provisions of Chapter 18.45 of the Redding Municipal Code pertaining to the preservation of trees within subdivision developments shall be complied with. This is a less than significant impact.

f. There are no Habitat Conservation Plans or Natural Community Conservation Plans adopted in this area. No impact has been identified.

Documentation

Redding General Plan Natural Resources Element, 2000

Mitigation

Further biological analyses will be addressed as part of the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. MINERAL RESOURCES. Would the proposal:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion

a, b. A mineral resource is land on which known deposits of commercially viable mineral or aggregate deposits exist. The designation is applied to sites determined by the State Division of Mines and Geology as being a resource of regional significance and is intended to help maintain any quarrying operations and protect them from encroachment of incompatible uses. The proposed Project is not identified in the City of Redding General Plan as having any known mineral resource value, or as being located within any "Critical Mineral Resource Overlay" area. No impact has been identified.

Documentation

City of Redding Natural Resources Element, 2000

Mitigation

None necessary.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the proposal:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☒	☐	☐	☐

Discussion

a, b, c, d. The nature of the proposed Project as a single- and multi-family subdivision does not present a significant risk related to hazardous materials or emissions. Some amount of hazardous materials may be used for regular maintenance and cleaning of homes, but these materials are not considered a significant risk to health and safety. According to the Phase I Environmental Site Assessment that was prepared for the proposed Project, there are no documented hazardous material sites located on or near the proposed Project and the site is not included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5. Therefore, impacts to the public or environment are not anticipated.

Hazardous substances typically used for construction would be transported and used on-site. Grading and construction activities would require the transport, storage, use and/or disposal of hazardous materials such as fuels and grease for the fueling/servicing of construction equipment. The use, handling, and storage of any hazardous materials during construction would be in compliance with the appropriate federal, state and local safety standards, and therefore does not represent a significant threat to the public or environment.

e, f. The proposed Project is located outside the established approach/departure clear zones for Redding Municipal Airport. The proposed Project's residential land uses would not conflict with operations of the Airport or present a safety hazard to people residing in the subdivision. There are no private airstrips in the proposed Project's vicinity.

g. The proposed Project does not involve a use or activity that could interfere with emergency-response or emergency-evacuation plans for the area. This is a less than significant impact.

h. Many locations within the City of Redding, including the proposed Project, are identified as having a very high wildland-fire hazard potential due to an intermixture of urban/rural uses and natural areas with high fuel loads and varied terrain. The presence of urban development adjacent to wildlands increases the likelihood of wildland fires, and the presence of wildlands adjacent to urban development allows fire to spread rapidly to and through developed areas. Since the *General Plan* identifies the proposed Project as being located in an area with very high wildland-fire hazard potential, further analysis is required, and potential impacts will be evaluated by appropriate emergency response departments.

Documentation

City of Redding General Plan Health and Safety Element, 2000
City of Redding General Plan Background Report, Chapter 10, Health and Safety, 1998
Phase I Environmental Site Assessment for Approximately 270 Acres North of Highway 299W, prepared by, ENPLAN, dated May 2006.

Mitigation

Further analysis regarding hazards and hazardous materials will be addressed in the EIR

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
X. NOISE. Would the proposal result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

a. The project will place homes in close proximity to SR-299 with its associated noise from high traffic volumes, speeds of vehicles and heavy trucks. These impacts are potentially significant and will be further evaluated in the EIR.

b. Groundborne vibrations are usually associated with heavy vehicle traffic (including railroad traffic), and with heavy equipment operations. Vehicle traffic generated by the proposed Project would be mostly passenger car in character, with some light and medium trucks. This is not expected to generate significant vibrations.

c. The proposed Project consists of a large residential development with accompanying park uses on land that is currently vacant; therefore, it would likely lead to a permanent increase in ambient noise levels. This impact is considered potentially significant and will be further evaluated in the EIR.

d. During the construction of subdivision improvements, there will be a temporary increase in noise in the project vicinity above existing ambient noise levels. The most noticeable construction noise would be related to grading, utility excavation, and land-clearing activity. The City's Grading Ordinance (RMC Chapter 16.12.120.H) limits grading-permit-authorized activities to between the hours of 7 a.m. and 7 p.m., Monday through Saturday. No operations are allowed on Sunday. Since the heavy construction work associated with the proposed Project is limited in scope and by existing regulation, the anticipated noise impact to neighboring residents is less than significant.

e, f. The development is not within an airport influence area, nor are there private airstrips in the vicinity of the proposed Project site. No impact as been identified.

Documentation

City of Redding General Plan Noise Element, 2000
Redding Municipal Code Chapter 16.12.120
City of Redding General Plan Transportation Element, 2000
City of Redding Zoning Ordinance Section 18.40.100

Mitigation

Further analysis regarding noise will be addressed in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. PUBLIC SERVICES.				
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
(1) Fire protection?	☒	☐	☐	☐
(2) Police protection?	☒	☐	☐	☐
(3) Schools?	☒	☐	☐	☐
(4) Parks?	☐	☐	☒	☐
(5) Other public facilities?	☒	☐	☐	☐

Discussion

a (1) & a (2). Although the City would provide fire and police protection services to the proposed Project, development of the Project would increase demand for these protection services. Potential Project impacts on fire and police protection are potentially significant and will be further evaluated in the EIR.

a (3). Development of the proposed Project may increase demand for school facilities and services. The proposed Project is located within two elementary school districts; the majority of the Project site lies within the Shasta Union Elementary School District, and a small portion on the eastern boundary of the Project site lies within the Redding Elementary School District. The proposed Project is also located in the Shasta Union High School District. Although a school-facility impact (in-lieu) fee exists, as provided under State law, that is paid prior to the issuance of a building permit for each residential unit to address school-facility funding necessitated by the effects of growth citywide, this potential impact will be further evaluated in the EIR.

a (4). The City of Redding General Plan Goal R4 states: "Provide a minium of ten acres of improved parkland per 1,000 population...". This Goal is implemented through a variety of programs. With approximately 440 proposed units at 2.54 persons per household, the Project would generate approximately 1,118 persons, or a requirement of 11.1 acres based on the 10 acre per thousand standard. The Project proposes 13.9 acres of parkland, and approximately 162 acres of open space. This impact is considered less than significant.

a (5). See discussion under Item XII (Utilities and Service Systems) below.

Documentation

City of Redding General Plan Public Facilities Element, 2000
Shasta County Public School District Boundary Map, 2008

Mitigation

Further analysis regarding public services and feasible mitigation measures will be included in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. UTILITIES AND SERVICE SYSTEMS. Would the proposal:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☒	☐	☐	☐
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☒	☐	☐	☐

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☒	☐	☐	☐
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☒	☐	☐	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☒	☐	☐	☐

Discussion

a, b, c, d, e. Future development would require wastewater sewer lines and water lines; however, due to uncertainties with capacity and adequacy of existing facilities, further review is required. This is a potentially significant impact. The EIR will evaluate existing capacities, Project generation, on- and off-site infrastructure connections, and will recommend applicable mitigation measures.

f, g. The City provides solid waste disposal (curbside pick-up) service, which homes in the subdivision would utilize. The City regulates and operates programs that promote the proper disposal of toxic and hazardous materials from households, including those created by the proposed Project. Potential Project impacts on solid waste disposal will be further evaluated in the EIR.

Documentation

City of Redding General Plan Housing and Public Facilities Elements, 2000

Mitigation

Further analysis regarding utilities and service systems and feasible mitigation measures will be included in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. AESTHETICS. Would the proposal:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion

a, c. Scenic vistas are defined as expansive views of highly-valued landscapes from publicly accessible viewpoints. Scenic vistas include views of natural features such as topography, water courses, outcrops, and natural vegetation, as well as man-made scenic structures. At the landscape level, the on-site topography consists of incised canyons that slope to the northeast towards the Sacramento River. Habitats occurring within and adjacent to the proposed Project include annual grassland, mixed chaparral, blue oak woodland, open water, riparian wetland, and seasonal wetland. The only current land use within the proposed Project site are electric utility corridors, with several utility maintenance roads crossing the proposed Project site.

Historic land uses in the Project vicinity consisted primarily of gold mining activities, in addition to utility and transportation development. As a result of historic mining activities on-site and in the vicinity, ridge tops, hillsides, stream terraces, and stream beds have been widely altered, and the Project area's biological habitat was adversely affected by fumes associated with the Keswick and other copper smelters in the area during the 1890s to early 1900s.

Land uses adjacent to the proposed Project site include undeveloped land and the City of Redding's Sacramento River Trail to the north; single-family residential development and undeveloped land to the east; residential units, Old Millhouse Deli, the City of Redding Electric Substation, and SR-299/Eureka Way to the south; and residential units and undeveloped land to the west. The proposed Project is located within an area designated in the *City of Redding General Plan* as "Residential, 6 to 10 units per acre", "Residential, 2 to 3.5 units per acre", and "Greenway" (GWY). The *General Plan* land use designations for surrounding properties include "GWY, "Residential, 2 to 3.5 units per acre", "Residential, 1 to 5 units per acre", "Public Facility" (PF-I), and "General Office" (GO).

The proposed Project is consistent with the City's General Plan adopted land use designation for the site and proposes to retain approximately 100 of the 272 acres as undeveloped land. There are no scenic vistas identified in the City of Redding General Plan and no existing significant topographical features of high scenic value within the Project site. Therefore, the proposed project would not have a significant impact on a scenic vista.

b. SR-299 forms the southern boundary of the proposed Project. According to Caltrans' California Scenic Highway Program, SR-299 is an eligible State Scenic Highway, although not officially designated at this time. Areas to the east of the proposed Project along SR-299 have been developed with similar residential use. As previously mentioned above, the Project site is partially disturbed and does not contain visually significant resources. Project implementation would not result in significant visual impacts along the subject portion of SR-299.

d. The proposed residential development has the potential to create new sources of substantial light or glare, which could affect day or nighttime views in the area; however, the City of Redding has lighting standards (Section 18.40.090 of the Zoning Ordinance) which were designed to prevent light spillage and glare. Compliance with the regulation will reduce this impact to a less than significant level.

Documentation

City of Redding General Plan Natural Resources Element, 2000
City of Redding General Plan, 2002
California Scenic Highway System, 2008
National Scenic Byways Program, 2008
City of Redding Zoning Ordinance, 2002

Mitigation

No mitigation necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. CULTURAL RESOURCES. Would the proposal:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?	☒	☐	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?	☒	☐	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Discussion

a, b. The cultural resources survey that was prepared for the proposed Project indicated that cultural resources were discovered in over 150 locales, which can be divided into three groups: Prehistoric resources include the Wheel-Rut Scatter site and several prehistoric isolates; the Salt Creek Mining Complex (SCMC), which includes a variety of historic mining-related artifacts and features, encompassing the entire proposed Project area; and numerous historic refuse dumps and historic trash isolates, which are located close to SR-299 and interior access roads. The Wheel-Rut Scatter, prehistoric isolates, historic dumps, and historic isolates have all been evaluated and determined not significant; however, the significance of the SCMC has not be sufficiently assessed. Further analysis in the EIR is required.

c. No paleontological resources or unique geologic features have been identified on the proposed Project site, and the potential for their occurrence is considered minimal. Impacts are considered less than significant.

d. There are no known burial sites on the proposed Project site. If human remains are unearthed during future development of the site, the provisions of California Health and Safety Code Section 7050.5 shall apply. Under this Section, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition, pursuant to California Public Resources Code Section 5097.98. Impacts are considered less than significant.

Documentation

Cultural Resources Survey for the Salt Creek Heights Residential Subdivision in Redding, Shasta County, California, Prepared by ENPLAN, October 2007.

Mitigation

Further cultural analyses will be addressed as part of the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION. Would the proposal:				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Discussion

a, b. Chapter 17.42 of the City's Subdivision Ordinance, *Park and Recreational Land Dedications and In-Lieu Fees,* requires that as a condition of approval of a tentative map, a subdivider shall either dedicate land or pay a fee in lieu thereof for park or recreational purposes. In accordance with State subdivision law, only projects containing 50 or more lots may be required to dedicate land for park development. Additional recreational development fees are collected by the City at the time of issuance of a building permit on an individual lot. The proposed Site Plan (dated November 7, 2007) shows an approximate 13.9-acre public park within the proposed development, along with approximately 162 acres of open space. In addition, the Project proposes a Development Agreement between the Project Applicant and the City for developer construction of the proposed public park in conjunction with the subdivision in exchange for credits towards the Project's city-wide park development impact fee obligation. The Project also proposes an on-site connection to the Buenaventura Trail at the proposed Buenaventura Boulevard extension. With the proposed public park acreage and trail connections, there would not be any potentially significant impacts to recreation associated with the proposed Project.

Documentation

City of Redding General Plan Natural Resources, Recreation, and Public Facilities Elements, 2000

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. AGRICULTURAL RESOURCES. Would the proposal:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson act contract?	☐	☐	☐	☒
c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

Discussion

a, b, c. The proposed Project is not designated as prime farmland in the City of Redding General Plan, Natural Resources Element. The proposed Project site has not been historically used for agricultural purposes, is not governed by the Williamson Act, nor does it possess soils that are prime for agricultural production. The proposed Project is within the primary growth area of the city and is zoned for the requested uses. No impact has been identified.

Documentation

City of Redding General Plan Natural Resources, 2000

Mitigation

None necessary.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Discussion

a. Responses to Checklist Items VII indicates that the proposed Project could have an impact on biological resources. A biological study will be conducted fro the project and the evaluation will be included in the EIR. Additionally, as indicated in response to Checklist Item XIV, further cultural resource analyses will be conducted and findings will be included in the EIR. Mitigation measures will be recommended, where applicable, to reduce potentially significant impacts.

b. A review of cumulative impacts for each issue area that has been identified as potentially significant will be required pursuant to Section 15130 of CEQA. A determination of significance will be made for each issue.

c. As stated in various sections of this Initial Study, the proposed Project has the potential to result in significant impacts on the environment. The EIR will include a comprehensive review of existing conditions, potential Project impacts, and will recommend mitigation measures to reduce the level of significance related to short-term construction and long-term operations, as necessary.

Appendix 15.2
Hazardous Material Evaluation

PHASE 1
ENVIRONMENTAL SITE ASSESSMENT

Approximately 270 Acres North of Highway 299W
Assessor's Parcel Numbers: 204-030-023 and -036
City of Redding

Prepared for:

Sierra Pacific Industries

ENPLAN

May 2006
278-06.1

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1.0 SUMMARY

ENPLAN has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM Practice E 1527-05 addressing Shasta County Assessor's Parcel Numbers 204-030-023 and -036. Any exceptions to, or deletions from, this practice are described in Section 3.0 of this report. This assessment has revealed no obvious evidence of recognized environmental conditions in connection with the property. No further environmental investigation of the subject property appears warranted at this time.

2.0 INTRODUCTION

This report presents the results of a Phase I Environmental Site Assessment (ESA) conducted for Assessor's Parcel Numbers 204-030-023 and -036, located north of Highway 299W (Eureka Way) in the vicinity of Lower Springs Road in the City of Redding, Shasta County, California. The property currently consists of approximately 270 acres of undeveloped land vegetated with native trees, shrubs, and grasses.

The purpose of this assessment is to permit the client to satisfy one of the requirements to qualify for the "*innocent landowner, contiguous property owner, or bona fide prospective purchaser*" limitations on Comprehensive Environmental Response Compensation and Liability Act (CERCLA) liability. This assessment is intended to constitute "all appropriate inquiry (AAI) into the previous ownership and uses of the property consistent with good commercial or customary practice." AAI is only the first step to establishing the ability to qualify for CERCLA liability protection – "continuing obligations" apply after purchase.

The goal of this assessment is to identify recognized environmental conditions in connection with the subject property. The term "recognized environmental conditions" means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

ENPLAN performed this ESA for Sierra Pacific Industries, in accordance with ASTM Practice E 1527-05, *Standard Practice for Environmental Site Assessments*. This report is prepared for the sole use and benefit of Sierra Pacific Industries and is based in part upon data provided by Sierra Pacific Industries and its representatives. Neither this report, nor any of the information contained herein, shall be used or relied upon for any other purpose by any person or entity other than Sierra Pacific Industries.

3.0 SCOPE OF SERVICES

ENPLAN performed the following tasks in order to identify recognized environmental conditions on and in the immediate vicinity of the subject site:

- Current visual survey of the property to evaluate on-site hazardous materials use, storage, and disposal activities.
- Visual reconnaissance of the immediately adjacent sites.
- Interviews with the current owner and client "user" regarding specialized knowledge, purchase price, and commonly known information. The property consists of undeveloped land; no key site managers, operators, occupants, or past owners of the property were identified or interviewed.
- Review of readily available literature and historic documentation for the property to determine historic site usage. Historical documents prior to 1940 were reviewed when available. Documents reviewed include historic USGS topographic maps and historic aerial photographs.
- Sanborn fire insurance maps for Redding were reviewed; however, coverage of the property was not available. The property consists of undeveloped land; therefore, no city directory coverage or building department records were available.
- Review of reasonably ascertainable regulatory agency databases concerning chemical use, storage, and disposal for the subject property and surrounding sites.
- Search for environmental cleanup liens.

- Preparation of this report presenting our findings, conclusions, and recommendations.

4.0 SITE DESCRIPTION AND HYDROLOGIC CONDITIONS

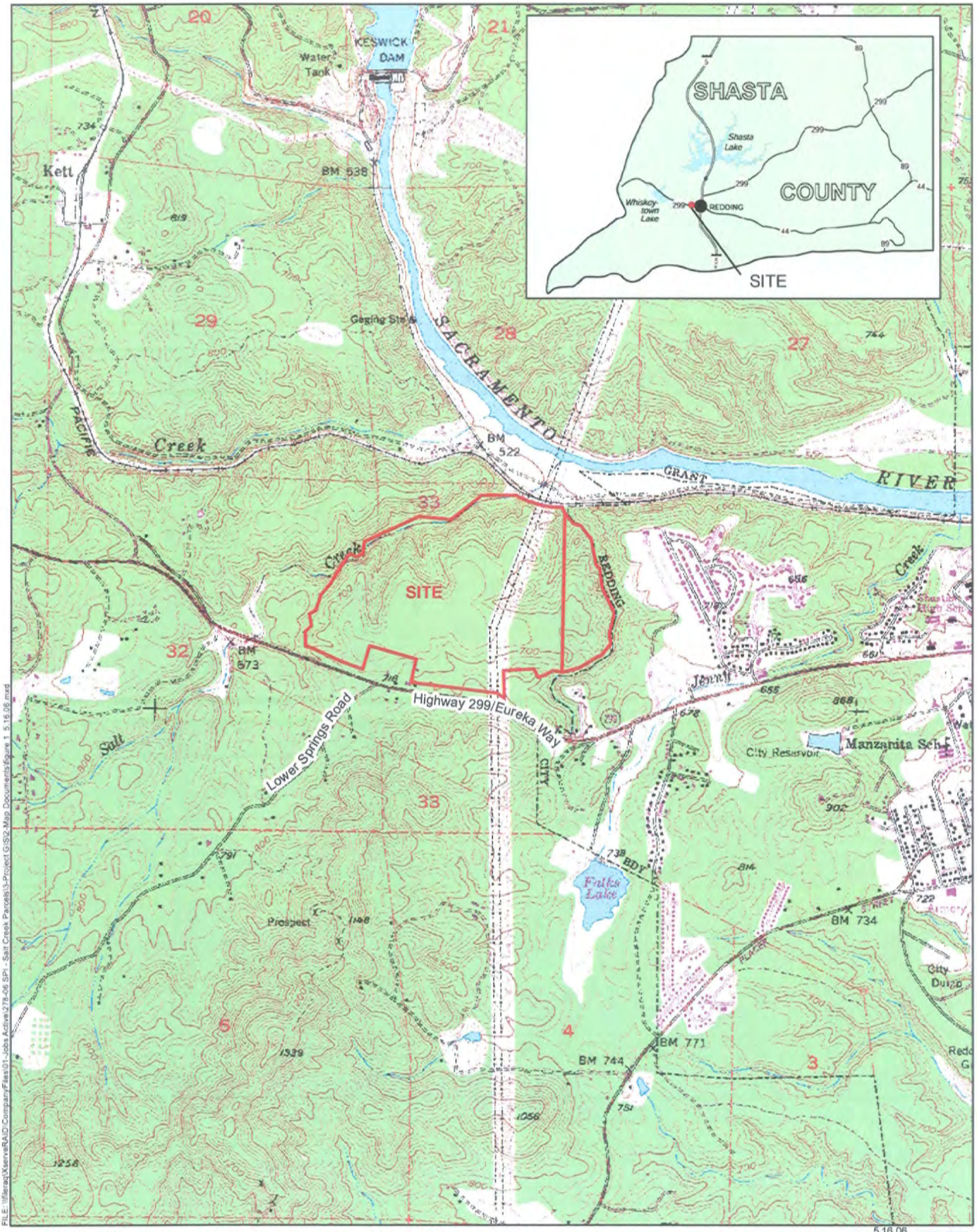
The subject property consists of approximately 270 acres of undeveloped land located north of Highway 299W (Eureka Way) in the vicinity of Lower Springs Road in the City of Redding, Shasta County, California. The property is identified as Shasta County Assessor's Parcel Numbers 204-030-023 and -036. The owners of the property are listed as Cleve F. Beck and Elizabeth H. Beck. Access to the property can be made from Highway 299W.

The property is located in an area comprised of undeveloped land, residences, and commercial buildings. The property ranges in elevation from approximately 500 to 760 feet above sea level. The site consists of a relatively flat ridge top that drops sharply to the north and east, and gradually towards the southeast. The property is depicted on the United States Geological Survey (USGS) Redding, California, 7.5-minute topographic quadrangle (1969), as shown in Figure 1.

No wells were observed on the property. Information regarding depth to groundwater was not available for the property or vicinity (EDR Inquiry Number 1671051.2s). In the absence of reported groundwater flow direction information, it is assumed that groundwater follows surface topography and flows towards the north, east, and southeast. Salt Creek is located along the northern and western property boundaries. Gold Run Creek is located along the eastern and southern portions of the property.

5.0 SITE RECONNAISSANCE

A field reconnaissance of the site was conducted by Amy E. Lee, Registered Environmental Assessor Number 07387, on May 13, 2006. Mrs. Lee is an environmental professional with over eleven years experience conducting Phase I Environmental Site Assessments. The property was visually and/or physically observed from unimproved dirt roads that traverse the property. The following observations were made:



5.16.06

Feet
0 1,000 2,000

Figure 1
Vicinity Map

ENPLAN

The subject site is situated north of Highway 299W (Eureka Way) in the vicinity of Lower Springs Road. The site is located in an area comprised of undeveloped land, residences, and commercial buildings. Access to the property can be made from Highway 299W. Figure 2 depicts the site layout on an aerial photograph. Site photographs are presented in Appendix A.

The property currently consists of undeveloped land vegetated with native trees, shrubs, and grasses. No buildings or paved roads were observed on the property. Unimproved dirt roads are located on the property. Minor amounts of household and automotive trash and debris, including clothing and automobile tires, were observed along these dirt roads. This type of illegal dumping of trash and debris is typical on undeveloped lands, and is not considered a recognized environmental condition for the property. Although used tires are not considered a hazardous waste, their disposal is regulated.

No regulated quantities of hazardous materials, including 55-gallon drums of chemicals, aboveground storage tanks (ASTs), or underground storage tanks (USTs), were observed to be used, stored, or disposed of on the property.

The property is currently undeveloped, and therefore, no electric, natural gas, water, sewage disposal, or refuse collection services are currently provided to the property. Waste management activities were not observed on the property. Several utility lines traverse the property. No sumps, hoists, hydraulic lifts, floor drains, storm drains, wells, or transformers were observed on the property.

Salt Creek is located along the northern and western property boundaries. Gold Run Creek is located along the eastern and southern property boundaries. Storm water flows into these creeks and onto adjacent parcels. No standing surface waters, including pits, ponds, or lagoons, were observed on the property.

Neither stained soils, discolored water, distressed vegetation, solid waste (construction debris, demolition debris, etc.), nor the presence of an obvious wastewater discharge were noticeable on the subject property. No strong, pungent, or noxious odors were noticeable during the site reconnaissance.

FILE: \\fileraq\XserveRAID\Company Files\01-Jobs Active\278-06 SPI - Salt Creek Parcels\3-Project GIS\2-Map Documents\Figure 2_5.16.06.mxd

Feature and boundary locations depicted are approximate only. 5.16.05
Source: ENPLAN orthoimagery, August 2004

0 500 1,000 Feet

Figure 2

Aerial Photograph of Site

ENPLAN

No current or past uses likely to involve the use, treatment, storage, disposal, or generation of hazardous substances or petroleum products were identified during the site reconnaissance. No obvious recognized environmental conditions were observed for the property during the site reconnaissance.

5.1 Adjacent Parcels

As depicted in Figure 2, the area surrounding the property is comprised of undeveloped land, residences, and commercial buildings. The parcels immediately adjoining the property are as follows:

- Adjacent to the north of the property is undeveloped land and the City of Redding's Sacramento River Trail.
- Adjacent to the south of the property are residences, Old Millhouse Deli, City of Redding Electric Substation (4400 Eureka Way), and Highway 299 (Eureka Way). Undeveloped land and residences are located to the south of Highway 299 (Eureka Way).
- Adjacent to the west of the property are residences and undeveloped land.
- Adjacent to the east of the property are residences and undeveloped land.

6.0 USER-PROVIDED INFORMATION

A User-Provided Information Questionnaire was completed by Mr. Gary Blanc of Sierra Pacific Industries on May 22, 2006. A copy of the completed questionnaire is included in Appendix D Mr. Blanc is not aware of any recognized environmental conditions for the property, including environmental cleanup liens, engineering controls, land use restrictions, or institutional controls. Mr. Blanc does not have any specialized knowledge or experience related to the property, nor is he aware of any obvious indicators that point to the presence or likely presence of contamination at the property. According to Mr. Blanc, the purchase price being paid for this property reasonably reflects the fair market value of the property. Mr. Blanc stated that the reason for performing this Phase I Environmental Site Assessment is to 'make sure there are no environmental issues prior to developing' the site.

7.0 SITE HISTORY

In order to obtain information regarding current and past recognized environmental conditions at the site, information from several sources was researched. The results of this research are summarized below.

7.1 Historic Map Review

In an attempt to assess past property uses that may have had an environmental impact on the property or surrounding areas, select historical maps depicting the subject property and surrounding areas were reviewed. Topographic maps from 1894, 1913, 1944, 1957, and 1969 were available for review.

1894 – (USGS 60-minute Red Bluff, California, Quadrangle):
The property consists of undeveloped land. Railroad tracks and undeveloped land adjoin the property to the north, followed by the Sacramento River. A road and undeveloped land adjoin the property to the south. Salt Creek is located along the western property boundary, followed by undeveloped land. Undeveloped land adjoins the property to the east.

1913 – (USGS 30-minute Redding, California, Quadrangle):
Three buildings, likely residences, are located in the northern portion of the property. The remainder of the property is undeveloped. Intermittent streams are located on the western and eastern portions of the property. Railroad tracks and undeveloped land adjoin the property to the north, followed by the Sacramento River. A road and undeveloped land adjoin the property to the south, followed by undeveloped land and a building. Salt Creek is located along the northwestern property boundary, followed by undeveloped land. Undeveloped land adjoins the property to the east and southwest.

1944 – (USGS 15-minute Redding, California, Quadrangle):
The entire property consists of undeveloped land. The previously observed three buildings are no longer located on the property. Salt Creek, undeveloped land, and railroad tracks adjoin the property to the north. Highway 299, buildings, and undeveloped land adjoin the property to the south. Salt Creek and undeveloped land adjoin the property to the west. Undeveloped land adjoins the property to the east.

1957 – (USGS 7.5-minute Redding, California, Quadrangle):
The property remains undeveloped. Power lines cross the central portion of the property. Salt Creek, undeveloped land, and railroad tracks adjoin the property

to the north. Highway 299, buildings, and undeveloped land adjoin the property to the south. Salt Creek and undeveloped land adjoin the property to the west. Undeveloped land adjoins the property to the east.

1969 – (USGS 7.5-minute Redding, California, Quadrangle):
One building, likely a residence, is located on the southern portion of the property. The remainder of the property consists of undeveloped land. Power lines remain located on the central portion of the property. Salt Creek, undeveloped land, and railroad tracks adjoin the property to the north. Highway 299, buildings, and undeveloped land adjoin the property to the south. Salt Creek and undeveloped land adjoin the property to the west. Undeveloped land adjoins the property to the east.

No obvious recognized environmental conditions for the property or adjacent parcels were noted from the topographic maps reviewed.

7.2 Local Fire Department Records Review

ENPLAN personnel reviewed available records for the subject property at the City of Redding Fire Department on May 16, 2006. No hazardous materials incident reports were on file for the property.

7.3 Local Health Department Records Review

Records were reviewed at the Shasta County Environmental Health Department on May 16, 2006. No files were found for the subject property.

7.4 Local Building Department Records Review

The property consists of undeveloped land; therefore, no building department records are available for the property.

7.5 Aerial Photograph Review

In an attempt to assess past property uses that may have had an environmental impact on the property or surrounding areas, select historical aerial photographs depicting the subject property and surrounding areas were reviewed. Aerial

photographs from 1952, 1974, 1985, 1993, 1998, 2002, and 2004 were available for review.

1952 (Robinson):
The property consists of undeveloped land that is densely vegetated with trees and shrubs. Power lines and unimproved dirt roads traverse the property. Salt Creek is located along the northern and western property boundaries. Railroad tracks and undeveloped land adjoin the property to the north. Undeveloped land, residences, and Highway 299 adjoin the property to the south. Undeveloped land adjoins the property to the west and east.

1974 (NASA):
The property and adjoining parcels appear similar to the previous photograph.

1985 (CH2M Hill, RDD 85, Sheet 4-12):
The property remains undeveloped land that is densely vegetated with trees and shrubs. Power lines and unimproved dirt roads traverse the property. Salt Creek is located along the northern and western property boundaries. Railroad tracks and undeveloped land adjoin the property to the north. Undeveloped land, residences, and Highway 299 adjoin the property to the south. Undeveloped land and residences adjoin the property to the west. Undeveloped land and graded residential developments adjoin the property to the east.

1993 (USGS):
The property and adjoining parcels to the north, south, and west appear similar to the previous photograph. Residences and undeveloped land adjoin the property to the east. An electric substation adjoins the property to the southeast.

1998 (USGS):
The property and adjoining parcels appear similar to the previous photograph.

2002 – (ENPLAN Aerial Photo Print):
The property and adjoining parcels appear similar to the previous photograph.

2004 – (ENPLAN Aerial Photo Print):
The property remains undeveloped land that is densely vegetated with trees and shrubs. Power lines and unimproved dirt roads traverse the property. Salt Creek is located along the northern and western property boundaries. Railroad tracks and undeveloped land adjoin the property to the north. Undeveloped land, residences, an electric substation, and Highway 299 adjoin the property to the south. Undeveloped land and residences adjoin the property to the west and east.

No obvious recognized environmental conditions for the property or adjacent parcels were noted from the aerial photographs reviewed.

7.6 Munger Oil and Gas Map Review

Locations of oil and gas wells were reviewed in the Munger Map Book of California and Alaska Oil and Gas Fields. According to page W-1, no oil or gas wells have been drilled on or adjacent to the subject property.

7.7 Sanborn Fire Insurance Map Review

Sanborn fire insurance map coverage of the property was not available (EDR Inquiry Number 1671051.3).

7.8 City Directory Review

The property consists of undeveloped land; therefore, no city directory coverage of the property is available.

8.0 REGULATORY AGENCY DATABASE REVIEW

To ascertain reported areas of possible environmental impairment on or in the vicinity of the subject property, sixty-five (65) federal, state, local, tribal, and proprietary records databases were reviewed. During the course of this study, ENPLAN utilized Environmental Data Resources, Inc. (EDR) as an information source for environmental records. A summary of the records review is presented in Appendix E.

The subject site and adjoining parcels were not identified as hazardous materials use, storage, disposal, or release sites on any of the 65 databases reviewed. Institutional controls and engineering controls were not identified for the property.

No hazardous materials use, storage, disposal, or release sites were identified within a one-mile radius of the property. No obvious potential off-site sources of contamination were identified within the ASTM-specified search distance (up to one mile) of the subject property on the 65 databases reviewed for this assessment.

8.1 Environmental Liens

During the course of this assessment, ENPLAN utilized Environmental Data Resources, Inc. (EDR) as an information source for environmental cleanup liens. A search was made for the existence of environmental cleanup liens against the subject property that are filed or recorded under federal, tribal, state, or local law. The property owners were identified as Cleve F. Beck and Elizabeth H. Beck. The Becks purchased the property in 1977 from Balbina Alvernaz. No environmental liens were identified for the property (EDR Inquiry Number L06-2615).

9.0 INTERVIEWS

All interviews were conducted by Amy E. Lee, Registered Environmental Assessor Number 07387, on May 16 and May 23, 2006. Mrs. Lee is an environmental professional with over eleven years experience conducting Phase I Environmental Site Assessments.

ENPLAN conducted an interview with the client via a facsimile sent on May 16, 2006. The User-Provided Information Questionnaire was completed by Mr. Gary Blanc of Sierra Pacific Industries on May 22, 2006. A copy of the completed questionnaire is included in Appendix D Mr. Blanc is not aware of any recognized environmental conditions for the property, including environmental cleanup liens, engineering controls, land use restrictions, or institutional controls. Mr. Blanc does not have any specialized knowledge or experience related to the property, nor is he aware of any obvious indicators that point to the presence or likely presence of contamination at the property. According to Mr. Blanc, the purchase price being paid for this property reasonably reflects the fair market value of the property. Mr. Blanc stated that the reason for performing this Phase I Environmental Site Assessment is to 'make sure there are no environmental issues prior to developing' the site.

ENPLAN conducted a telephone interview with the owner of the property, Mrs. Elizabeth Beck, on May 23, 2006. The Becks were in the real estate business and purchased the property from a lady who hired them to sell the property for her. The Becks have never used or occupied the property. One small cabin was located in the southern portion of the property, near the Old Millhouse Deli, when the Becks

purchased the property. This cabin burned down at least 15 years ago. No other buildings or improved roads have been located on the property since it has been owned by the Becks. Mrs. Beck is not aware of any recognized environmental conditions for the property, including underground storage tanks, aboveground storage tanks, or environmental cleanup liens. Mrs. Beck is not aware of any previous environmental reports prepared for the property.

The property consists of undeveloped land; no key site manager (operator) was identified for the property, and no occupants are present on the property. No past owners, past operators, or past occupants of the property were identified.

10.0 FINDINGS AND OPINION

Historical research conducted for this study indicates that the property consisted of undeveloped land in 1894. Three buildings, likely residences, were located on the northern portion of the property in 1913. The property consisted of undeveloped land from at least 1944 to 1957. A small cabin was located on the southern portion of the property from at least 1969 to the 1980s, when it burned down. The remainder of the property has historically, and currently, consists of undeveloped land densely vegetated with trees and shrubs. Utility lines and unimproved dirt roads have been historically, and are currently, located on the property. No significant data gaps or data failures were encountered during the course of this assessment.

The entire site presently consists of undeveloped land vegetated with native trees, shrubs, and grasses. Several power lines and unimproved dirt roads traverse the property. Non-hazardous household and automotive trash and debris, including used tires, were observed along the dirt roads on the property. This type of illegal dumping of trash and debris is typical on undeveloped lands, and is not considered a recognized environmental condition for the property. Although used tires are not considered a hazardous waste, their disposal is regulated. It is recommended that the used tires located on the property be properly disposed of.

No regulated quantities of hazardous materials, including aboveground storage tanks, underground storage tanks, or 55-gallon drums of chemicals, were observed to

be used, stored, or disposed of on the property. No records were found to indicate that any underground storage tanks have been located on the property in the past.

The search of regulatory lists for hazardous materials sites in the vicinity of the property did not identify any obvious potential off-site sources of contamination within the ASTM-specified search distance (up to one mile) of the subject property. No obvious recognized environmental conditions for the property or adjacent parcels were noted from the 65 databases reviewed.

It is ENPLAN's opinion that no obvious recognized environmental conditions were identified for the property during the course of this assessment. No obvious conditions indicative of releases or threatened releases of hazardous substances, pollutants, contaminants, petroleum and petroleum products on, at, in, or to the subject property were identified during the course of this assessment. No further environmental investigation of the subject property appears warranted at this time. This opinion is based on the information provided to ENPLAN during the course of this assessment. Any data that is missing or was withheld from ENPLAN could alter our opinion.

11.0 CONCLUSIONS

ENPLAN has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM Practice E 1527-05 addressing Shasta County Assessor's Parcel Numbers 204-030-023 and -036. Any exceptions to, or deletions from, this practice are described in Section 3.0 of this report. This assessment has revealed no obvious evidence of recognized environmental conditions in connection with the property. No further environmental investigation of the subject property appears warranted at this time.

12.0 CERTIFICATION

This Phase I Environmental Site Assessment Report has been prepared by ENPLAN at the request of Sierra Pacific Industries, and has been reviewed and approved by the undersigned. The research, interviews, and field work conducted for this assessment were completed by Amy E. Lee, Registered Environmental Assessor Number 07387. Mrs. Lee is an environmental professional with over eleven years experience conducting Phase I Environmental Site Assessments.

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed "all appropriate inquiries" in conformance with the standards and practices set forth in 40 CFR Part 312.

The scope of effort upon which this report is based is intended to provide a reasonable assessment of environmental risk for the client. This effort was not absolutely exhaustive and the quality of our assessment is necessarily dependent on the quality of the information supplied to ENPLAN by all sources cited. Inspection and data collection were carried out by ENPLAN staff according to accepted standards. However, inspection was mainly surficial and the identification of possible environmental risks or contamination was limited accordingly. No environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this assessment is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property. Therefore, this report does not carry with it any express or implied warranty that environmental risks associated with the subject site have been totally excluded or precisely characterized.

Reviewed and Approved by:

_____

Amy Lee, R.E.A.
Environmental Assessor

May 2006

13.0 REFERENCES

AVERHILL H. MUNGER. 1994. *Munger Map Book of California and Alaska Oil and Gas Fields.*

CITY OF REDDING FIRE DEPARTMENT. Personal Communication. May 16, 2006.

ENVIRONMENTAL DATA RESOURCES, INC. May 8, 2006. The EDR Radius Map with GeoCheck. Inquiry Number 1671051.2s.

ENVIRONMENTAL DATA RESOURCES, INC. May 9, 2006. The EDR Aerial Photo Decade Package. Inquiry Number 1671051.5.

ENVIRONMENTAL DATA RESOURCES, INC. May 11, 2006. The EDR-City Directory Abstract. Inquiry Number 1671051.6.

ENVIRONMENTAL DATA RESOURCES, INC. May 8, 2006. Sanborn Map Report. Inquiry Number 1671051.3.

ENVIRONMENTAL DATA RESOURCES, INC. May 22, 2006. The EDR Environmental Lien Search Report. Inquiry Number L06-2615.

SHASTA COUNTY BUILDING DEPARTMENT. Personal Communication. May 16, 2006.

SHASTA COUNTY ENVIRONMENTAL HEALTH DEPARTMENT. Personal Communication. May 16, 2006.

USGS. 1894. Red Bluff, California Quadrangle, 60-minute topographic map

____. 1913. Redding, California Quadrangle, 30-minute topographic map.

____. 1944. Redding, California Quadrangle, 15-minute topographic map.

____. 1957 and 1969. Redding, California Quadrangle, 7.5-minute topographic map.

APPENDIX A

Site Photographs

SITE PHOTOGRAPHS

Photo 1. View facing southwest from the northeastern portion of the site.

Photo 2. View facing east from the southwestern portion of the property.

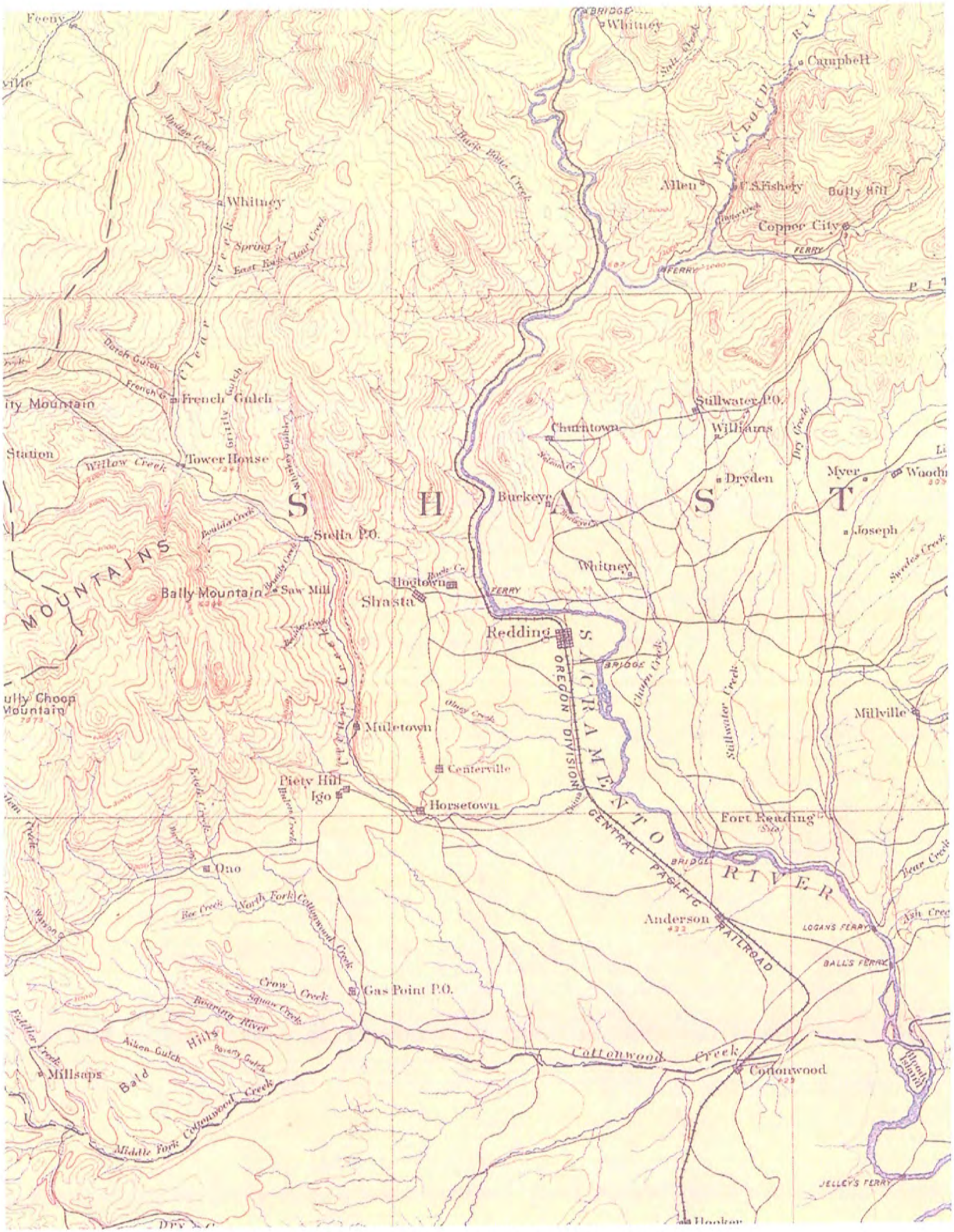
SITE PHOTOGRAPHS

Photo 3. View facing west from the northeastern portion of the property.

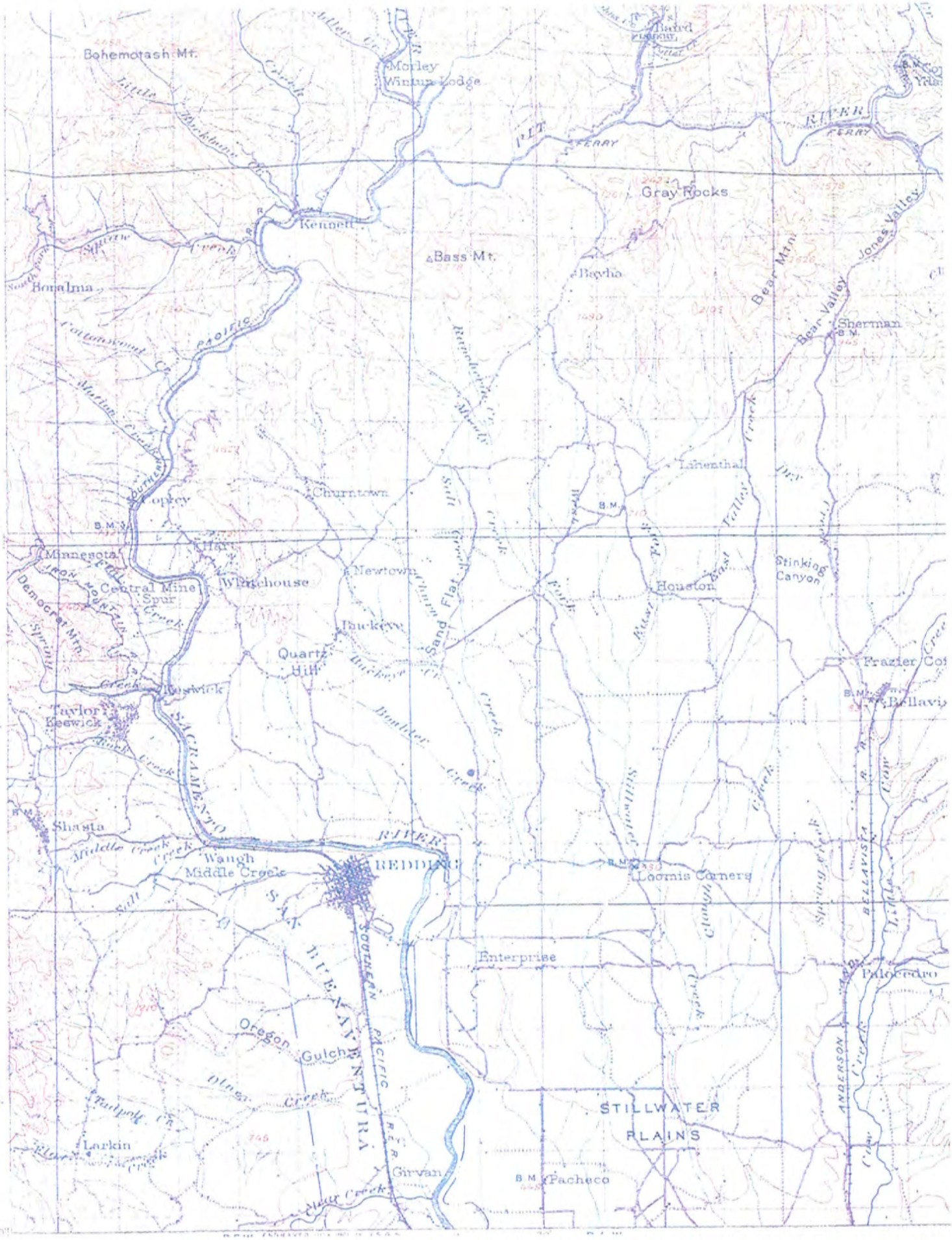
Photo 4. View facing north from the southern portion of the property.

APPENDIX B

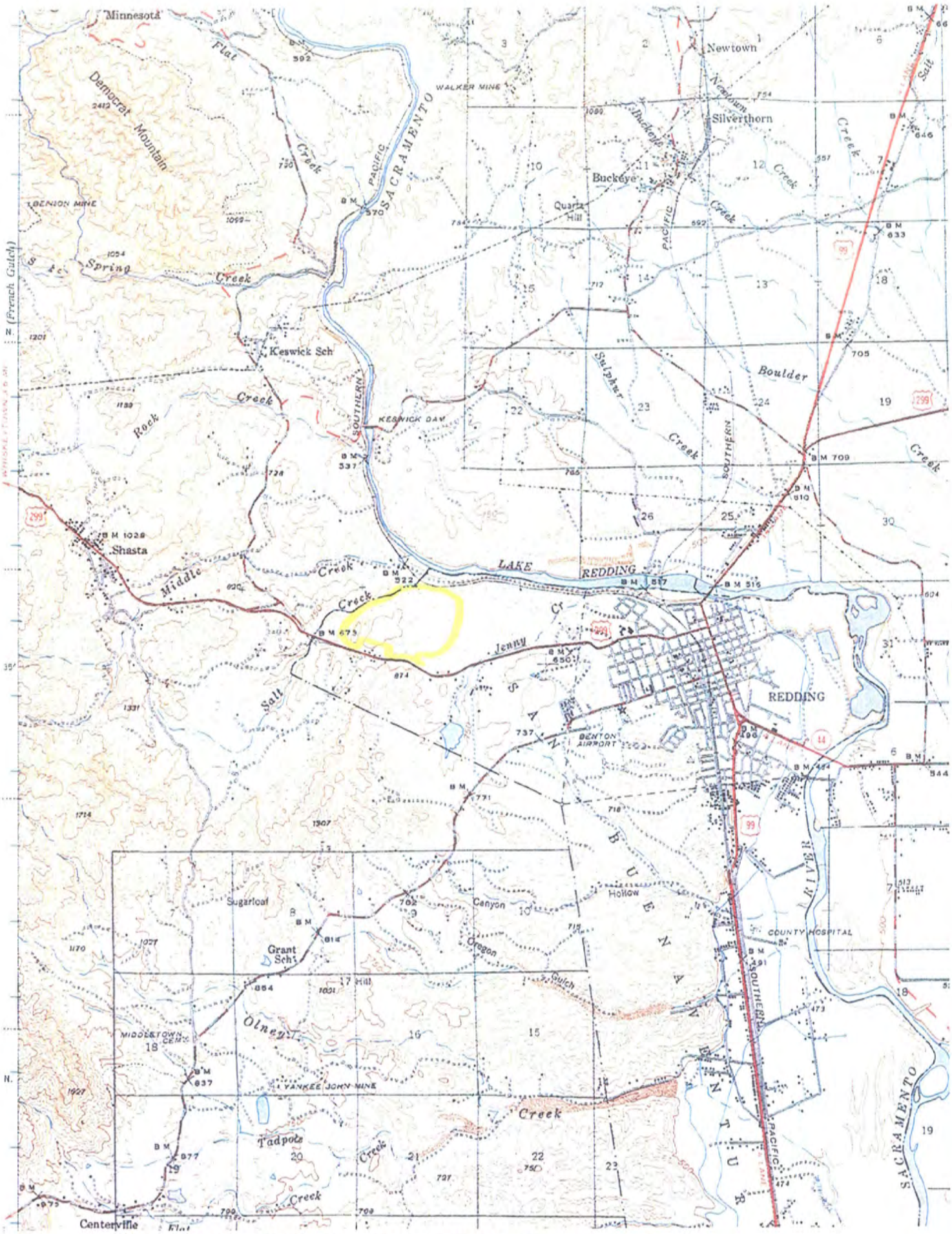
Historic Topographic Maps



N ^ EDR INQUIRY# 1671051.4 TARGET QUAD: REDBLUFF YEAR: 1894 Series: 60' Scale: 1:250,000

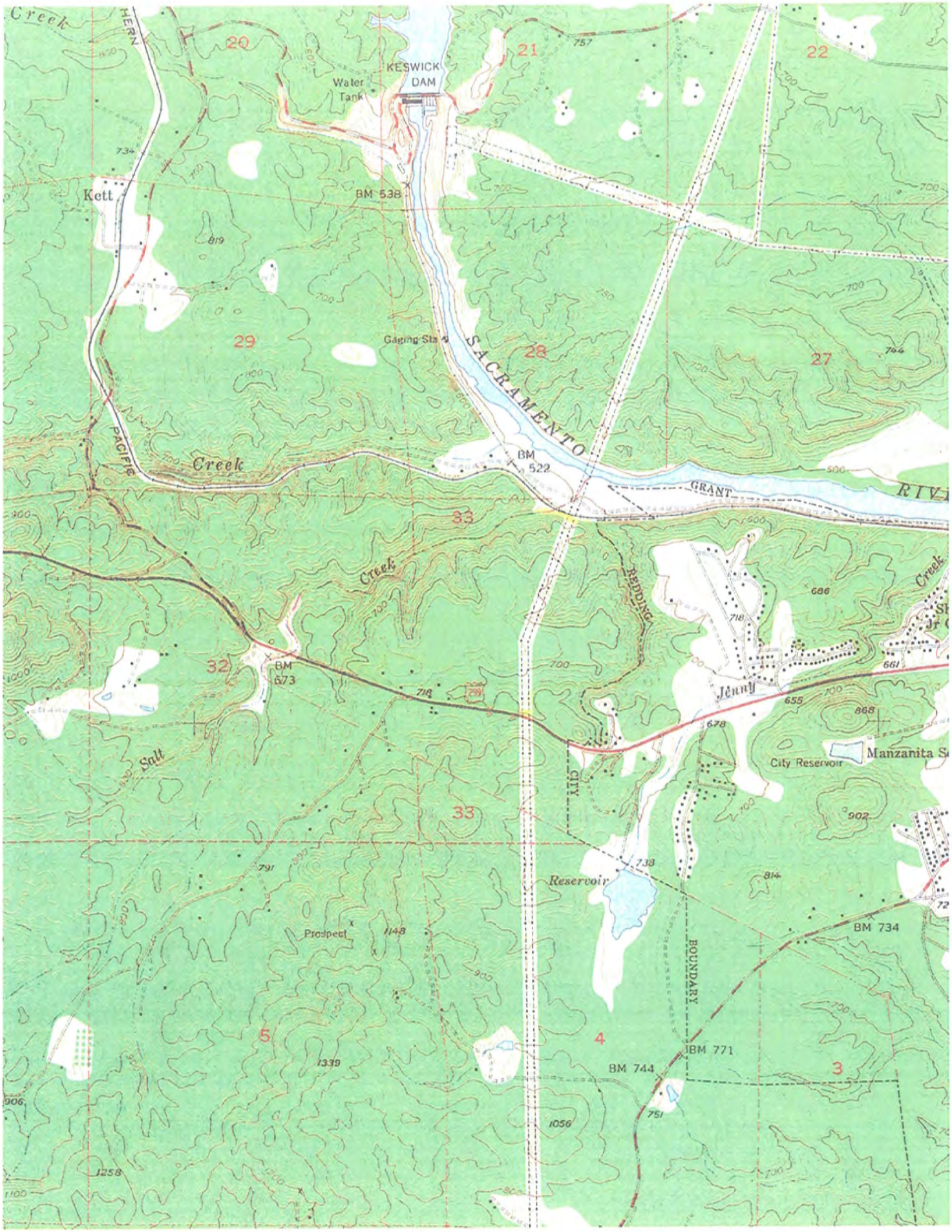


N ^ EDR INQUIRY# 1671051.4 TARGET QUAD: REDDING YEAR: 1913 Series: 30' Scale: 1:125,000



N ^ EDR INQUIRY# 1671051.4 TARGET QUAD: REDDING YEAR: 1944 Series: 15' Scale: 1:62,500

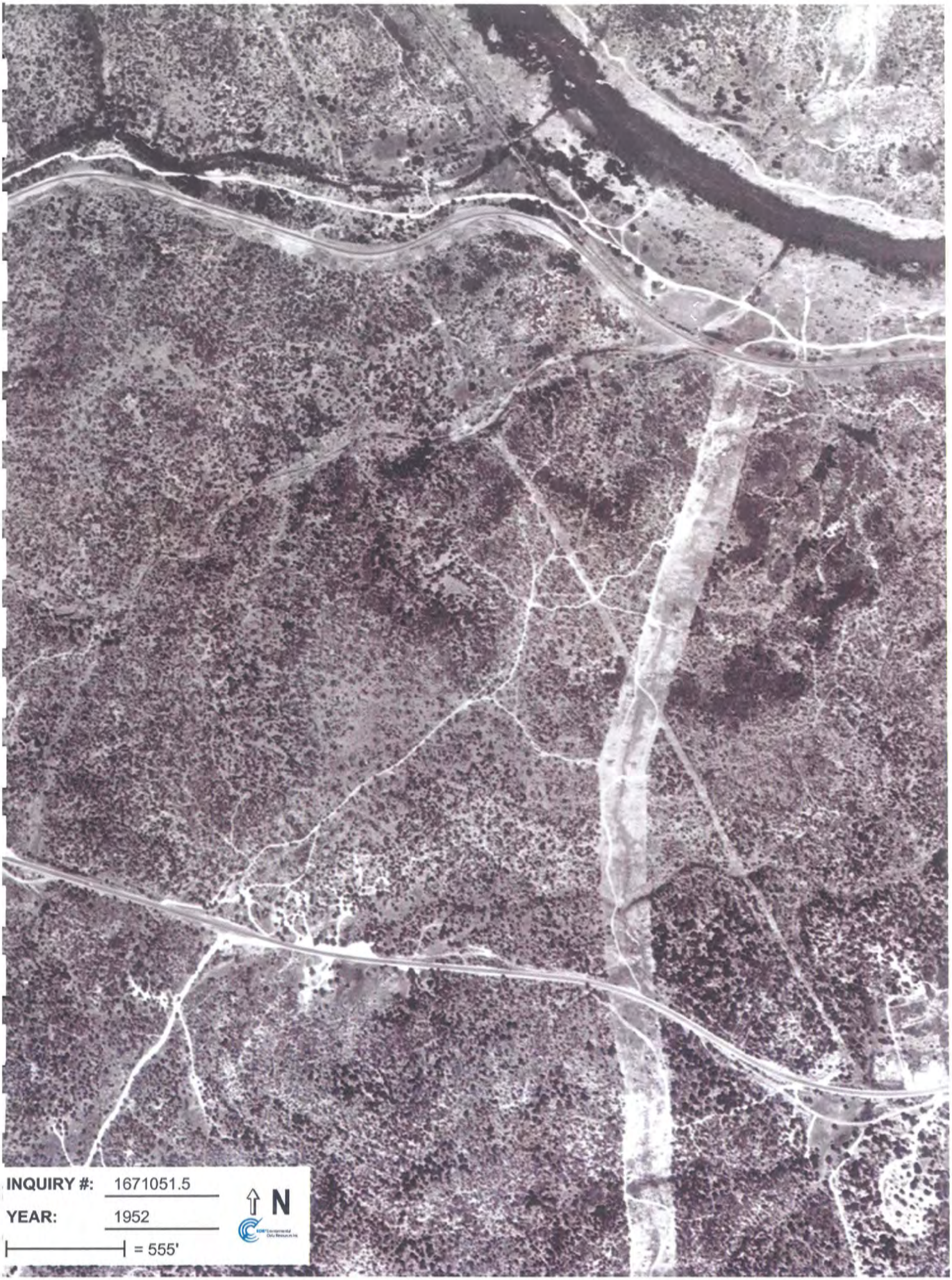
N ^ EDR INQUIRY# 1671051.4 TARGET QUAD: REDDING PhotoRevised: 1957-1969 Series: 7.5' Scale: 1:24,000



N ^ EDR INQUIRY# 1671051.4 TARGET QUAD: REDDING YEAR: 1957 Series: 7.5' Scale: 1:24,000

APPENDIX C

Historic Aerial Photographs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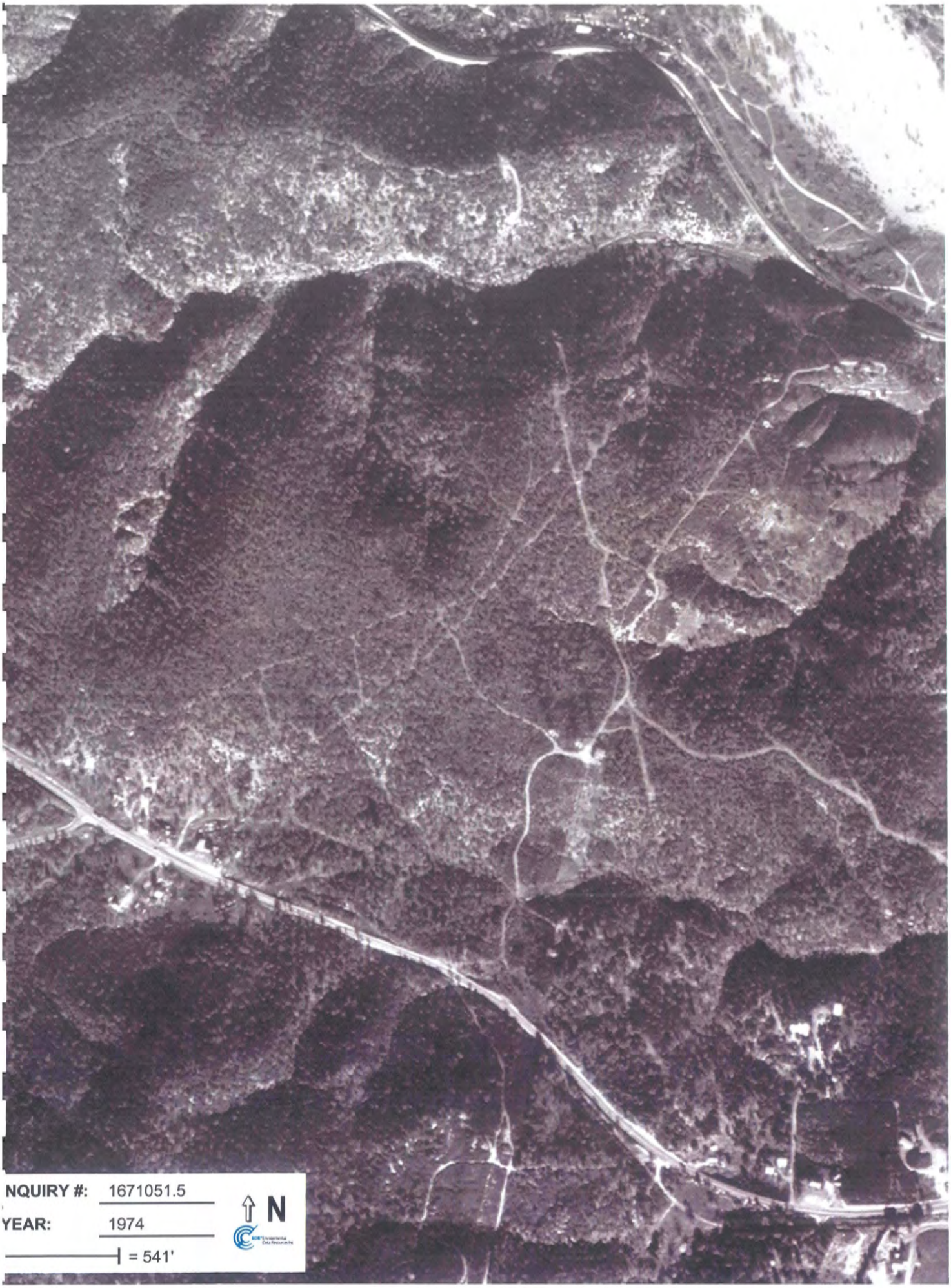
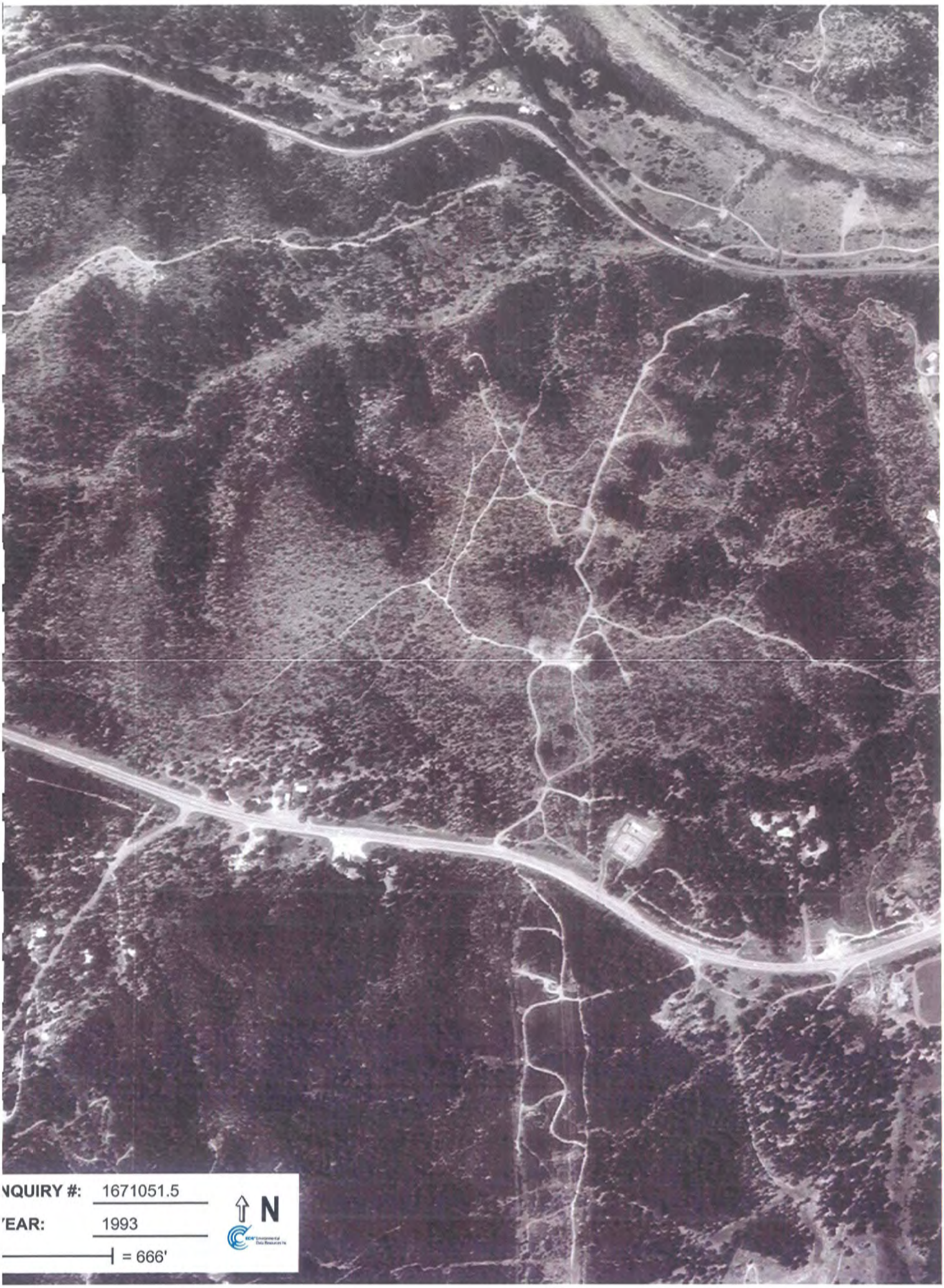
YEAR: 1952
= 555'
N


NQUIRY #: 1671051.5
YEAR: 1974
= 541'
N


NQUIRY #: 1671051.5
EAR: 1993
= 666'
N

INQUIRY #: 1671051.5
YEAR: 1998
= 666'
N

WILD 15/4 UAB
7596
8-02-8

FILE: \\fileraq\Xserve\RAID\CompanyFiles\01-Jobs Active\278-06 SPI - Salt Creek Parcels\3-Project GIS\2-Map Documents\2002 aerial.mxd

Feature and boundary locations depicted are approximate only. 5.3.06
Source: ENPLAN orthoimagery, July 2002

0 500 1,000 Feet

ENPLAN

FILE: \\Mierag\XserveRAID\CompanyFiles\02-Forms\Map Templates\8.5 x 11 Bound_Generic_P.mxd

Feature and boundary locations depicted are approximate only. 5.3.06
Source: ENPLAN orthoimagery, August 2004

0 500 1,000 Feet

ENPLAN

APPENDIX D

User-Provided Information Questionnaire

USER PROVIDED INFORMATION QUESTIONNAIRE

DATE: 5-17-06

CLIENT: SIERRA PACIFIC INDUSTRIES, ATTENTION GARY BLANC

PROPERTY: ~270-ACRE SITE NORTH OF HIGHWAY 299 AND LOWER SPRINGS ROAD, APN'S 204-030-023 AND -036

THE FOLLOWING INFORMATION **MUST** BE PROVIDED TO ENPLAN IN ORDER TO MEET ASTM STANDARD 1527-05. OUR REPORT CANNOT BE COMPLETED UNTIL WE RECEIVE THE FOLLOWING INFORMATION. PLEASE COMPLETE THIS FORM AND FAX IT TO ENPLAN AT 530-221-6963 AT YOUR EARLIEST CONVENIENCE. THANK YOU.

1. TITLE REPORT – PLEASE PROVIDE ENPLAN WITH A COPY

2. ARE YOU AWARE OF ANY PENDING, THREATENED, OR PAST LITIGATION OR ADMINISTRATIVE PROCEEDINGS RELEVANT TO HAZARDOUS SUBSTANCES OR PETROLEUM PRODUCTS IN, ON, OR FROM THE PROPERTY?

   _____YES ___X___NO

3. ARE YOU AWARE OF ANY NOTICES FROM ANY GOVERNMENTAL ENTITY REGARDING ANY POSSIBLE VIOLATION OR ENVIRONMENTAL LAWS OR POSSIBLE LIABILITY RELATING TO HAZARDOUS SUBSTANCES OR PETROLEUM PRODUCTS?

   _____YES ___X___NO

4. ARE YOU AWARE OF ANY ENVIRONMENTAL CLEANUP LIENS AGAINST THE PROPERTY THAT ARE FILED OR RECORDED UNDER FEDERAL, TRIBAL, STATE, OR LOCAL LAW?

   _____YES ___X___NO

5. ARE YOU AWARE OF ANY ACTIVITY AND LAND USE LIMITATIONS, SUCH AS ENGINEERING CONTROLS, LAND USE RESTRICTIONS, OR INSTITUTIONAL CONTROLS THAT ARE IN PLACE AT THE SITE AND/OR HAVE BEEN FILED OR RECORDED IN A REGISTRY UNDER FEDERAL, TRIBAL, STATE, OR LOCAL LAW?

   _____YES ___X___NO

6. DO YOU HAVE ANY SPECIALIZED KNOWLEDGE OR EXPERIENCE RELATED TO THE PROPERTY OR NEARBY PROPERTIES?

_____YES ___X___NO

7. ARE YOU AWARE OF ANY COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION ABOUT THE PROPERTY OR NEARBY PROPERTIES THAT WOULD HELP IDENTIFY CONDITIONS INDICATIVE OF RELEASES OR THREATENED RELEASES?

_____YES ___X___NO

8. DO YOU KNOW THE PAST USES OF THE PROPERTY?

_____YES (PLEASE LIST) ___X___NO

9. DO YOU KNOW OF SPECIFIC CHEMICALS THAT ARE PRESENT OR ONCE WERE PRESENT AT THE PROPERTY?

_____YES (PLEASE LIST) ___X___NO

10. DO YOU KNOW OF SPILLS OR OTHER CHEMICAL RELEASES THAT HAVE TAKEN PLACE AT THE PROPERTY?

_____YES (PLEASE LIST) ___X___NO

11. DO YOU KNOW OF ANY ENVIRONMENTAL CLEANUPS THAT HAVE TAKEN PLACE AT THE PROPERTY?

_____YES (PLEASE LIST) ___X___NO

12. DOES THE PURCHASE PRICE BEING PAID FOR THIS PROPERTY REASONABLY REFLECT THE FAIR MARKET VALUE OF THE PROPERTY?

___X___YES _____NO

IF NO, IS THE LOWER PURCHASE PRICE DUE TO CONTAMINATION THAT IS KNOWN OR BELIEVED TO BE PRESENT AT THE PROPERTY?

_____YES _____NO

13. BASED ON YOUR KNOWLEDGE AND EXPERIENCE RELATED TO THE PROPERTY, ARE THERE ANY OBVIOUS INDICATORS THAT POINT TO THE PRESENCE OR LIKELY PRESENCE OF CONTAMINATION AT THE PROPERTY?

_____YES __X__NO

14. PROPERTY OWNER NAME Clive Beck AND PHONE NUMBER 925-846-2411

15. PROPERTY MANAGER NAME N/A AND PHONE NUMBER_____

16. OCCUPANT NAME N/A AND PHONE NUMBER_____

17. REASON FOR PERFORMING PHASE I ENVIRONMENTAL SITE ASSESSMENT?

A. _____TO QUALIFY FOR LANDOWNER LIABILITY PROTECTIONS TO CERCLA LIABILITY

B. __X__OTHER: Make sure there are no environmental issues prior to developing.

18. ARE YOU AWARE OF ANY OF THE FOLLOWING DOCUMENTS THAT MAY EXIST FOR THE PROPERTY?

A. ENVIRONMENTAL SITE ASSESSMENT REPORTS _____YES __X__NO

B. ENVIRONMENTAL COMPLIANCE AUDIT REPORTS _____YES __X__NO

C. ENVIRONMENTAL PERMITS (E.G. SOLID WASTE DISPOSAL PERMITS, HAZARDOUS WASTE DISPOSAL PERMITS, WASTEWATER PERMITS, NPDES PERMITS, UNDERGROUND INJECTION PERMITS)_____YES __X__NO

D. REGISTRATIONS FOR UNDERGROUND AND ABOVEGROUND STORAGE TANKS
_____YES __X__NO

E. REGISTRATIONS FOR UNDERGROUND INJECTION SYSTEMS
_____YES __X__NO

F. MATERIAL SAFETY DATA SHEETS _____YES __X__NO

G. COMMUNITY RIGHT-TO-KNOW PLAN _____YES __X__NO

H. SAFETY PLANS; PREPAREDNESS AND PREVENTION PLANS; SPILL PREVENTION, COUNTERMEASURE, AND CONTROL PLANS
_____YES __X__NO

I. REPORTS REGARDING HYDROGEOLOGIC CONDITIONS ON THE PROPERTY OR SURROUNDING AREA _____YES __X__NO

J. NOTICES OR OTHER CORRESPONDENCE FROM ANY GOVERNMENT AGENCY RELATING TO PAST OR CURRENT VIOLATIONS OF ENVIRONMENTAL LAWS WITH RESPECT TO THE PROPERTY OR RELATING TO ENVIRONMENTAL LIENS ENCUMBERING THE PROPERTY _____YES __X__NO

K. HAZARDOUS WASTE GENERATOR NOTICES OR REPORTS
_____YES __X__NO

L. GEOTECHNICAL STUDIES _____YES __X__NO

M. RISK ASSESSMENTS _____YES __X__NO

N. RECORDED ACTIVITY AND USE LIMITATIONS _____YES __X__NO

IF YES ON (A-N) ABOVE, WILL COPIES BE PROVIDED TO ENPLAN FOR REVIEW?
_____YES _____NO

COMPLETED BY:

SIGNATURE: Gary Blanc

PRINT NAME: Gary Blanc

DATE: 5/22/06

APPENDIX E

Executive Summary, *The EDR Radius Map with GeoCheck*

The EDR Radius Map
with GeoCheck®

Salt Creek Parcels
Salt Creek Parcels
Redding, CA 96001

Inquiry Number: 1671051.2s

May 08, 2006

EDR® Environmental
Data Resources Inc

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06461

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

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Detail Map	3
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Map Findings	6
Orphan Summary	7
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

SALT CREEK PARCELS
REDDING, CA 96001

COORDINATES

Latitude (North):	40.588300 - 40˚ 35' 17.9"
Longitude (West):	122.440800 - 122˚ 26' 26.9"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	547322.4
UTM Y (Meters):	4492995.0
Elevation:	746 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	40122-E4 REDDING, CA
Most Recent Revision:	1969

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

FEDERAL RECORDS

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
Delisted NPL..... National Priority List Deletions
NPL RECOVERY..... Federal Superfund Liens
CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP..... CERCLIS No Further Remedial Action Planned
CORRACTS..... Corrective Action Report
RCRA-TSDF..... Resource Conservation and Recovery Act Information
RCRA-LQG..... Resource Conservation and Recovery Act Information

EXECUTIVE SUMMARY

RCRA-SQG	Resource Conservation and Recovery Act Information
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
US BROWNFIELDS	A Listing of Brownfields Sites
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
SSTS	Section 7 Tracking Systems
PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
MINES	Mines Master Index File
FINDS	Facility Index System/Facility Registry System
RAATS	RCRA Administrative Action Tracking System

STATE AND LOCAL RECORDS

AWP	Annual Workplan Sites
Cal-Sites	Calsites Database
CA BOND EXP. PLAN	Bond Expenditure Plan
NFA	No Further Action Determination
NFE	Properties Needing Further Evaluation
REF	Unconfirmed Properties Referred to Another Agency
SCH	School Property Evaluation Program
Toxic Pits	Toxic Pits Cleanup Act Sites
SWF/LF	Solid Waste Information System
CA WDS	Waste Discharge System
WMUDS/SWAT	Waste Management Unit Database
Cortese	"Cortese" Hazardous Waste & Substances Sites List
SWRCY	Recycler Database
LUST	Geotracker's Leaking Underground Fuel Tank Report
CA FID UST	Facility Inventory Database
SLIC	Statewide SLIC Cases
UST	Active UST Facilities
HIST UST	Hazardous Substance Storage Container Database
AST	Aboveground Petroleum Storage Tank Facilities
SWEEPS UST	SWEEPS UST Listing
CHMIRS	California Hazardous Material Incident Report System
Notify 65	Proposition 65 Records
DEED	Deed Restriction Listing
VCP	Voluntary Cleanup Program Properties
CLEANERS	Cleaner Facilities
WIP	Well Investigation Program Case List
CDL	Clandestine Drug Labs
HAZNET	Facility and Manifest Data
EMI	Emissions Inventory Data

TRIBAL RECORDS

INDIAN RESERV	Indian Reservations

EXECUTIVE SUMMARY

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
INDIAN UST..... Underground Storage Tanks on Indian Land

EDR PROPRIETARY RECORDS

Manufactured Gas Plants... EDR Proprietary Manufactured Gas Plants
EDR Historical Auto StationsEDR Proprietary Historic Gas Stations
EDR Historical Cleaners.... EDR Proprietary Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

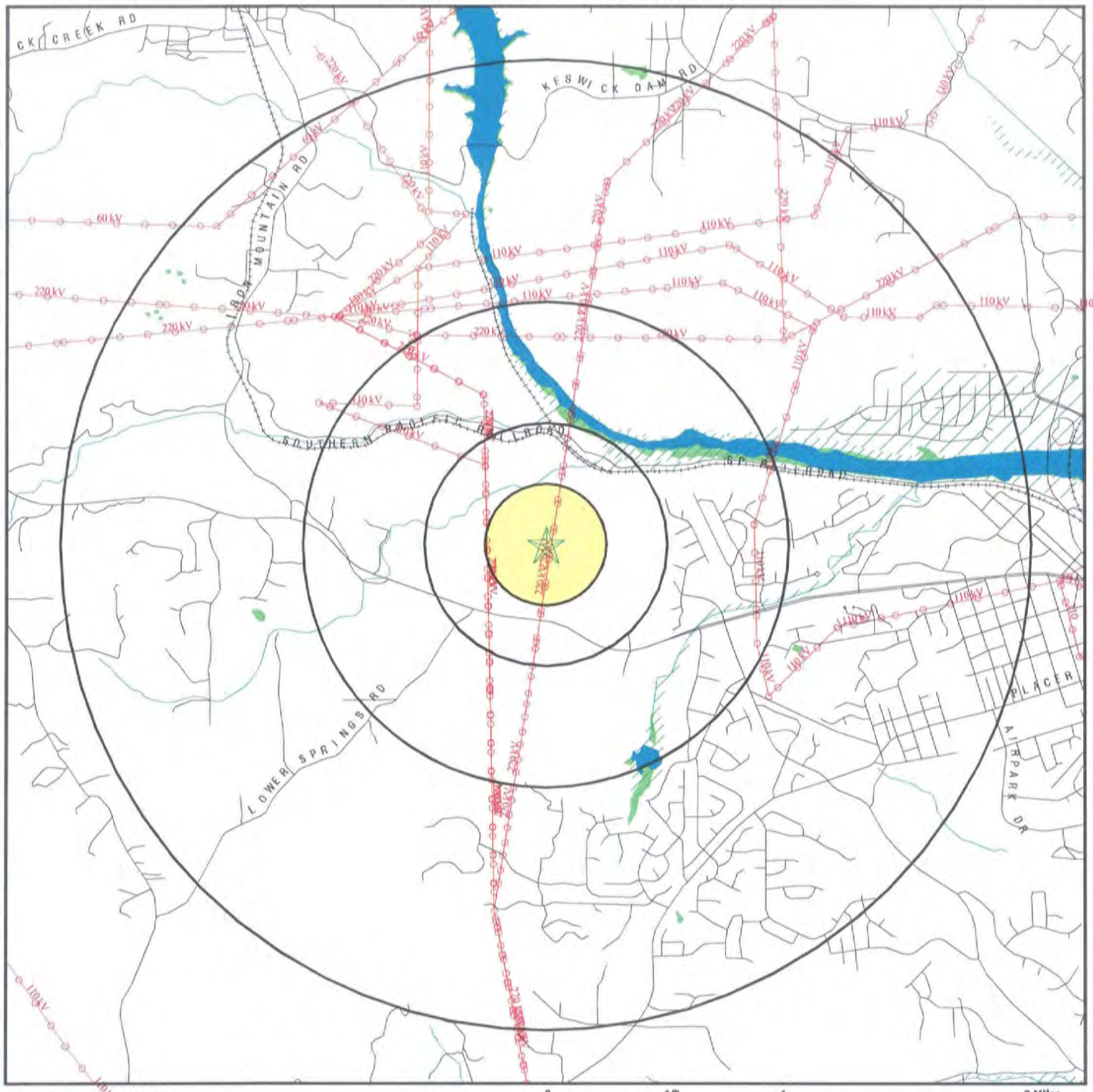
Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
CLEAR CREEK MARKET	CA FID UST, SWEEPS UST
BELLA VISTA MINI MART	LUST, Cortese
J'S MARKET	Cortese, WMUDS/SWAT
GREENHORN MINE	FINDS, Cortese, CA WDS
IRON MTN., MINNESOTA FLATS	Toxic Pits
COPPER MOUNTAIN MINE	CERCLIS, FINDS
PG&E GAS PLANT REDDING	CERC-NFRAP
REDDING CITY LANDFILL	CERC-NFRAP
CLEAR CREEK MARKET	UST, HIST UST
BOGARD SAND HOUSE	HIST UST
BECKWOURTH MAINTENANCE STATION	HIST UST
DELTA LINES, INC.	HIST UST
ROBERT E. CROWELL	HIST UST
ETNA MAINTENANCE	HIST UST
DOUG HOOPER TRUCKING	HAZNET
CALTRANS DIST 2/CONSTRUCTION	HAZNET
RITE AID	HAZNET
SHASTA UNION HIGH SCHOOL-BUS	HAZNET
S/B 1-5 AT DOG CREEK	ERNS
CANYON CREEK RD NR BLAZING WOOD	ERNS
CHURN CREEK RD. AND INDUSTRIAL WAY	ERNS
CHURN CREEK ROAD AND DANA DRIVE	ERNS
INTERSECTION TURN CREEK RD & DANA DR	ERNS
INTERSECTION TURN CREEK RD & DANA DR	ERNS
WHISKEY CREEK BRIDGE ON HWY 299	ERNS
CLEAR CREEK DISPOSAL SITE	FINDS
CLEAR CREEK CSD WATER TREATMENT PLANT	FINDS
ASH CREEK	FINDS
WILDWOOD MILL SITE	REF

OVERVIEW MAP - 1671051.2s



0 1/2 1 2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Salt Creek Parcels ADDRESS: Salt Creek Parcels Redding CA 96001 LAT/LONG: 40.5883 / 122.4408	CLIENT: Enplan CONTACT: Denise Dethlefsen INQUIRY #: 1671051.2s DATE: May 08, 2006

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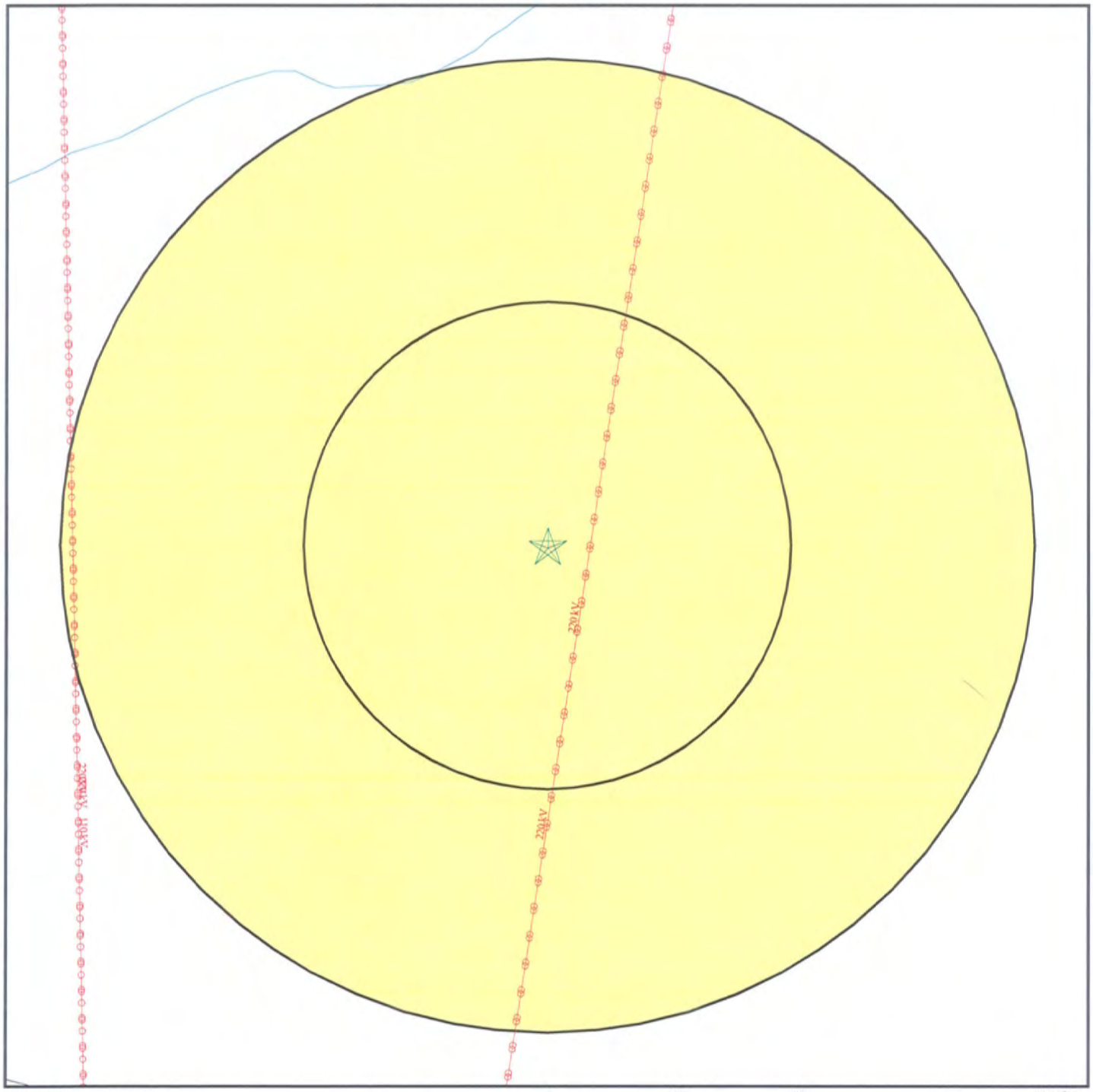
DETAIL MAP - 1671051.2s



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Salt Creek Parcels ADDRESS: Salt Creek Parcels Redding CA 96001 LAT/LONG: 40.5883 / 122.4408	CLIENT: Enplan CONTACT: Denise Dethlefsen INQUIRY #: 1671051.2s DATE: May 08, 2006

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL RECORDS								
NPL		1.250	0	0	0	0	0	0
Proposed NPL		1.250	0	0	0	0	0	0
Delisted NPL		1.250	0	0	0	0	0	0
NPL RECOVERY		0.250	0	0	NR	NR	NR	0
CERCLIS		0.750	0	0	0	0	NR	0
CERC-NFRAP		0.750	0	0	0	0	NR	0
CORRACTS		1.250	0	0	0	0	0	0
RCRA TSD		0.750	0	0	0	0	NR	0
RCRA Lg. Quan. Gen.		0.500	0	0	0	NR	NR	0
RCRA Sm. Quan. Gen.		0.500	0	0	0	NR	NR	0
ERNS		0.250	0	0	NR	NR	NR	0
HMIRS		0.250	0	0	NR	NR	NR	0
US ENG CONTROLS		0.750	0	0	0	0	NR	0
US INST CONTROL		0.750	0	0	0	0	NR	0
DOD		1.250	0	0	0	0	0	0
FUDS		1.250	0	0	0	0	0	0
US BROWNFIELDS		0.750	0	0	0	0	NR	0
CONSENT		1.250	0	0	0	0	0	0
ROD		1.250	0	0	0	0	0	0
UMTRA		0.750	0	0	0	0	NR	0
ODI		0.750	0	0	0	0	NR	0
TRIS		0.250	0	0	NR	NR	NR	0
TSCA		0.250	0	0	NR	NR	NR	0
FTTS		0.250	0	0	NR	NR	NR	0
SSTS		0.250	0	0	NR	NR	NR	0
PADS		0.250	0	0	NR	NR	NR	0
MLTS		0.250	0	0	NR	NR	NR	0
MINES		0.500	0	0	0	NR	NR	0
FINDS		0.250	0	0	NR	NR	NR	0
RAATS		0.250	0	0	NR	NR	NR	0
STATE AND LOCAL RECORDS								
AWP		1.250	0	0	0	0	0	0
Cal-Sites		1.250	0	0	0	0	0	0
CA Bond Exp. Plan		1.250	0	0	0	0	0	0
NFA		0.500	0	0	0	NR	NR	0
NFE		0.500	0	0	0	NR	NR	0
REF		0.500	0	0	0	NR	NR	0
SCH		0.500	0	0	0	NR	NR	0
Toxic Pits		1.250	0	0	0	0	0	0
State Landfill		0.750	0	0	0	0	NR	0
CA WDS		0.250	0	0	NR	NR	NR	0
WMUDS/SWAT		0.750	0	0	0	0	NR	0
Cortese		0.750	0	0	0	0	NR	0
SWRCY		0.750	0	0	0	0	NR	0
LUST		0.750	0	0	0	0	NR	0
CA FID UST		0.500	0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC		0.750	0	0	0	0	NR	0
UST		0.500	0	0	0	NR	NR	0
HIST UST		0.500	0	0	0	NR	NR	0
AST		0.500	0	0	0	NR	NR	0
SWEEPS UST		0.500	0	0	0	NR	NR	0
CHMIRS		0.250	0	0	NR	NR	NR	0
Notify 65		1.250	0	0	0	0	0	0
DEED		0.750	0	0	0	0	NR	0
VCP		0.750	0	0	0	0	NR	0
DRYCLEANERS		0.500	0	0	0	NR	NR	0
WIP		0.500	0	0	0	NR	NR	0
CDL		0.250	0	0	NR	NR	NR	0
HAZNET		0.250	0	0	NR	NR	NR	0
EMI		0.250	0	0	NR	NR	NR	0
TRIBAL RECORDS								
INDIAN RESERV		1.250	0	0	0	0	0	0
INDIAN LUST		0.750	0	0	0	0	NR	0
INDIAN UST		0.500	0	0	0	NR	NR	0
EDR PROPRIETARY RECORDS								
Manufactured Gas Plants		1.250	0	0	0	0	0	0
EDR Historical Auto Stations		0.500	0	0	0	NR	NR	0
EDR Historical Cleaners		0.500	0	0	0	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID Direction Distance Distance (ft.) Elevation	Site	Database(s)	EDR ID Number EPA ID Number

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
COUNTY	U001618477	BOGARD SAND HOUSE	C.D.F. STATION HIGHWAY 44	96001	HIST UST
REDDING	94406832	S/B 1-5 AT DOG CREEK	S/B 1-5 AT DOG CREEK	96001	ERNS
REDDING	S103961165	DOUG HOOPER TRUCKING	HWY 273 / KENYON ROAD	96001	HAZNET
REDDING	S105025714	BELLA VISTA MINI MART	21471 HWY 299 E	96003	LUST, Cortese
REDDING	S107142196	CALTRANS DIST 2/CONSTRUCTION	RTE 299 INTERSECTION OF EUREKA WY	96001	HAZNET
REDDING	1001498899	J'S MARKET	HWY 299W	96001	Cortese, WMUDS/SWAT
REDDING	1005488998	GREENHORN MINE	HWY 299W	96001	FINDS, Cortese, CA WDS
REDDING	U001618476	BECKWOURTH MAINTENANCE STATION	HIGHWAY 70	96001	HIST UST
REDDING	U001618494	DELTA LINES, INC.	5050 HIGHWAY 99 SOUTH	96001	HIST UST
REDDING	U001618559	ROBERT E. CROWELL	7040 HWY. 99 SO.	96001	HIST UST
REDDING	91201836	CANYON CREEK RD NR BLAZING WOOD	CANYON CREEK RD NR BLAZING WOOD	96001	ERNS
REDDING	8873579	CHURN CREEK RD. AND INDUSTRIAL WAY	CHURN CREEK RD. AND INDUSTRIAL WAY		ERNS
REDDING	99616810	CHURN CREEK ROAD AND DANA DRIVE	CHURN CREEK ROAD AND DANA DRIVE		ERNS
REDDING	1006830443	CLEAR CREEK DISPOSAL SITE	CLEAR CREEK ROAD		FINDS
REDDING	1003878900	PG&E GAS PLANT REDDING	SW COR SOUTH & CENTER STS	96001	CERC-NFRAP
REDDING	S105083116	RITE AID	SW CORNER OF EUREKA / COURT	96001	HAZNET
REDDING	S102810206	SHASTA UNION HIGH SCHOOL-BUS	2500 EUREKA BUS GARAGE	96001	HAZNET
REDDING	S101629205	CLEAR CREEK MARKET	7036 S HWY 99	96001	CA FID UST, SWEEPS UST
REDDING	99635153	INTERSECTION TURN CREEK RD & DANA DR	INTERSECTION TURN CREEK RD & DANA DR		ERNS
REDDING	99634634	INTERSECTION TURN CREEK RD & DANA DR	INTERSECTION TURN CREEK RD & DANA DR		ERNS
REDDING	S100676307	IRON MTN., MINNESOTA FLATS	IRON MOUNTAIN ROAD		Toxic Pits
REDDING	1000707582	COPPER MOUNTAIN MINE	OFF HWY 299 4MI NW OF REDDING	96001	CERCLIS, FINDS
REDDING	1005596970	CLEAR CREEK CSD WATER TREATMENT PLANT	PAIGE BAR RD. 1 MILE BELOW	96001	FINDS
REDDING	1003879485	REDDING CITY LANDFILL	WEST PLACER & BUENA VENTURA	96001	CERC-NFRAP
REDDING	U001618487	CLEAR CREEK MARKET	7036 HW99 SOUTH	96001	UST, HIST UST
REDDING	1006830508	ASH CREEK	S3, T39N, R/W	96001	FINDS
REDDING (NR)	91218678	WHISKEY CREEK BRIDGE ON HWY 299	WHISKEY CREEK BRIDGE ON HWY 299	96001	ERNS
SISKIYOU	U001618497	ETNA MAINTENANCE	NORTH/ETNA ROUTE 3	96001	HIST UST
WILDWOOD	S100351695	WILDWOOD MILL SITE	HAYFORK CREEK BRIDGE/HWY 36	96001	REF

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 02/24/2006
Date Data Arrived at EDR: 03/01/2006
Date Made Active in Reports: 03/31/2006
Number of Days to Update: 30

Source: EPA
Telephone: N/A
Last EDR Contact: 05/05/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 8
Telephone: 303-312-6774

EPA Region 4
Telephone 404-562-8033

Proposed NPL: Proposed National Priority List Sites

Date of Government Version: 02/24/2006
Date Data Arrived at EDR: 03/01/2006
Date Made Active in Reports: 03/31/2006
Number of Days to Update: 30

Source: EPA
Telephone: N/A
Last EDR Contact: 05/05/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 02/24/2006
Date Data Arrived at EDR: 03/01/2006
Date Made Active in Reports: 03/31/2006
Number of Days to Update: 30

Source: EPA
Telephone: N/A
Last EDR Contact: 05/05/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

NPL RECOVERY: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/01/2006
Date Data Arrived at EDR: 03/21/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 23

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 03/21/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 02/01/2006
Date Data Arrived at EDR: 03/21/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 23

Source: EPA
Telephone: 703-413-0223
Last EDR Contact: 03/21/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/15/2006
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 02/21/2006
Date Data Arrived at EDR: 03/01/2006
Date Made Active in Reports: 03/31/2006
Number of Days to Update: 30

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/27/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 01/12/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 40

Source: National Response Center, United States Coast Guard
Telephone: 202-260-2342
Last EDR Contact: 04/26/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 01/16/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 36

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 04/14/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List
A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/02/2005
Date Data Arrived at EDR: 08/12/2005
Date Made Active in Reports: 10/06/2005
Number of Days to Update: 55

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 03/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls
A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 01/10/2005
Date Data Arrived at EDR: 02/11/2005
Date Made Active in Reports: 04/06/2005
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 703-603-8905
Last EDR Contact: 03/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 02/06/2006
Next Scheduled EDR Contact: 05/08/2006
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 01/19/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 33

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 11/29/2005
Date Data Arrived at EDR: 12/05/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/14/2004
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 04/25/2005
Number of Days to Update: 69

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/07/2005
Date Data Arrived at EDR: 01/06/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 46

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 11/04/2005
Date Data Arrived at EDR: 11/28/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 63

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 07/13/2005
Date Made Active in Reports: 08/17/2005
Number of Days to Update: 35

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 03/21/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/27/2004
Date Made Active in Reports: 05/21/2004
Number of Days to Update: 24

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 04/12/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/17/2006
Date Data Arrived at EDR: 01/24/2006
Date Made Active in Reports: 02/27/2006
Number of Days to Update: 34

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

Date of Government Version: 01/17/2006
Date Data Arrived at EDR: 01/24/2006
Date Made Active in Reports: 02/27/2006
Number of Days to Update: 34

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 01/03/2005
Date Made Active in Reports: 01/25/2005
Number of Days to Update: 22

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Annually

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/27/2005
Date Data Arrived at EDR: 02/08/2006
Date Made Active in Reports: 02/27/2006
Number of Days to Update: 19

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 05/08/2006
Next Scheduled EDR Contact: 08/07/2006
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 02/10/2006
Date Data Arrived at EDR: 02/16/2006
Date Made Active in Reports: 03/31/2006
Number of Days to Update: 43

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/08/2005
Date Data Arrived at EDR: 12/27/2005
Date Made Active in Reports: 01/30/2006
Number of Days to Update: 34

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/29/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: Semi-Annually

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/09/2006
Date Data Arrived at EDR: 01/16/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 36

Source: EPA
Telephone: N/A
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 06/17/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 48

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/17/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Biennially

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE AND LOCAL RECORDS

AWP: Annual Workplan Sites
Known Hazardous Waste Sites. California DTSC's Annual Workplan (AWP), formerly BEP, identifies known hazardous substance sites targeted for cleanup.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/29/2005
Date Made Active in Reports: 09/21/2005
Number of Days to Update: 23

Source: California Environmental Protection Agency
Telephone: 916-323-3400
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 05/29/2006
Data Release Frequency: Annually

CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/29/2005
Date Made Active in Reports: 09/21/2005
Number of Days to Update: 23

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2006
Next Scheduled EDR Contact: 05/29/2006
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

NFA: No Further Action Determination
This category contains properties at which DTSC has made a clear determination that the property does not pose a problem to the environment or to public health.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/29/2005
Date Made Active in Reports: 10/06/2005
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 05/29/2006
Data Release Frequency: Quarterly

NFE: Properties Needing Further Evaluation
This category contains properties that are suspected of being contaminated. These are unconfirmed contaminated properties that need to be assessed using the PEA process. PEA in Progress indicates properties where DTSC is currently conducting a PEA. PEA Required indicates properties where DTSC has determined a PEA is required, but not currently underway.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/29/2005
Date Made Active in Reports: 09/21/2005
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 05/29/2006
Data Release Frequency: Quarterly

REF: Unconfirmed Properties Referred to Another Agency
This category contains properties where contamination has not been confirmed and which were determined as not requiring direct DTSC Site Mitigation Program action or oversight. Accordingly, these sites have been referred to another state or local regulatory agency.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/29/2005
Date Made Active in Reports: 10/06/2005
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 05/29/2006
Data Release Frequency: Quarterly

SCH: School Property Evaluation Program
This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/29/2005
Date Made Active in Reports: 10/06/2005
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 05/29/2006
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 05/01/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: No Update Planned

SWF/LF (SWIS): Solid Waste Information System
Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 03/13/2006
Date Data Arrived at EDR: 03/15/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 29

Source: Integrated Waste Management Board
Telephone: 916-341-6320
Last EDR Contact: 03/15/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Quarterly

CA WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 03/20/2006
Date Data Arrived at EDR: 03/21/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 23

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 03/21/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Quarterly

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 05/29/2001
Date Made Active in Reports: 07/26/2001
Number of Days to Update: 58

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-9100
Last EDR Contact: 04/25/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 01/05/2006
Date Data Arrived at EDR: 01/09/2006
Date Made Active in Reports: 01/31/2006
Number of Days to Update: 22

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/10/2006
Data Release Frequency: Quarterly

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 01/09/2006
Date Data Arrived at EDR: 01/09/2006
Date Made Active in Reports: 01/31/2006
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 916-341-5752
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/10/2006
Data Release Frequency: Quarterly

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 03/28/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 916-542-5424
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-4130
Last EDR Contact: 05/08/2006
Next Scheduled EDR Contact: 08/07/2006
Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-346-7491
Last EDR Contact: 12/27/2005
Next Scheduled EDR Contact: 03/27/2006
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-346-7491
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Date of Government Version: 01/15/2006
Date Data Arrived at EDR: 01/16/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 36

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 04/27/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 02/13/2006
Next Scheduled EDR Contact: 05/15/2006
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-576-2220
Last EDR Contact: 02/20/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 04/10/2006
Next Scheduled EDR Contact: 07/10/2006
Data Release Frequency: Quarterly

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC: Statewide SLIC Cases
The Spills, Leaks, Investigations, and Cleanups (SLIC) listings includes unauthorized discharges from spills and leaks, other than from underground storage tanks or other regulated sites.

Date of Government Version: 01/09/2006
Date Data Arrived at EDR: 01/09/2006
Date Made Active in Reports: 01/31/2006
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 916-341-5752
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/10/2006
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 02/20/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 04/10/2006
Next Scheduled EDR Contact: 07/10/2006
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 02/17/2006
Date Data Arrived at EDR: 02/17/2006
Date Made Active in Reports: 03/13/2006
Number of Days to Update: 24

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 02/13/2006
Next Scheduled EDR Contact: 05/15/2006
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 04/26/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Unregulated sites that impact groundwater or have the potential to impact groundwater.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 01/17/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 35

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

Date of Government Version: 03/14/2006
Date Data Arrived at EDR: 03/14/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 05/29/2006
Data Release Frequency: Annually

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 04/10/2006
Date Data Arrived at EDR: 04/11/2006
Date Made Active in Reports: 05/01/2006
Number of Days to Update: 20

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/10/2006
Data Release Frequency: Semi-Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 01/30/2006
Date Data Arrived at EDR: 01/30/2006
Date Made Active in Reports: 02/17/2006
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 05/01/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1980's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 11/30/2005
Date Made Active in Reports: 01/19/2006
Number of Days to Update: 50

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 02/20/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: Varies

NOTIFY 65: Proposition 65 Records

Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: No Update Planned

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 01/03/2006
Date Data Arrived at EDR: 01/04/2006
Date Made Active in Reports: 01/19/2006
Number of Days to Update: 15

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Semi-Annually

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/29/2005
Date Made Active in Reports: 09/21/2005
Number of Days to Update: 23

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/05/2006
Next Scheduled EDR Contact: 05/29/2006
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 04/18/2005
Date Data Arrived at EDR: 04/18/2005
Date Made Active in Reports: 05/06/2005
Number of Days to Update: 18

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 04/03/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 01/23/2006
Date Data Arrived at EDR: 01/24/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 28

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 04/26/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Varies

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/10/2006
Date Made Active in Reports: 03/13/2006
Number of Days to Update: 31

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 05/08/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 10/11/2005
Date Made Active in Reports: 10/31/2005
Number of Days to Update: 20

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 02/24/2006
Next Scheduled EDR Contact: 05/08/2006
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2003
Date Data Arrived at EDR: 07/19/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 23

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 04/14/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Varies

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/08/2005
Date Made Active in Reports: 08/04/2005
Number of Days to Update: 177

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 02/06/2006
Next Scheduled EDR Contact: 05/08/2006
Data Release Frequency: Semi-Annually

INDIAN LUST: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 09/07/2005
Date Data Arrived at EDR: 09/08/2005
Date Made Active in Reports: 10/31/2005
Number of Days to Update: 53

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/10/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: Varies

INDIAN LUST: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2006
Date Data Arrived at EDR: 03/22/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 22

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 02/20/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: Varies

INDIAN UST: Underground Storage Tanks on Indian Land

Date of Government Version: 03/01/2006
Date Data Arrived at EDR: 03/22/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 22

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 02/20/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Historical Auto Stations: EDR Proprietary Historic Gas Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Historical Cleaners: EDR Proprietary Historic Dry Cleaners
EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 02/16/2006
Date Data Arrived at EDR: 02/17/2006
Date Made Active in Reports: 03/13/2006
Number of Days to Update: 24

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/25/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Semi-Annually

Underground Tanks

Date of Government Version: 02/27/2006
Date Data Arrived at EDR: 02/28/2006
Date Made Active in Reports: 03/23/2006
Number of Days to Update: 23

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/25/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 03/20/2006
Date Data Arrived at EDR: 03/21/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 23

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 05/29/2006
Data Release Frequency: Semi-Annually

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 01/18/2006
Date Data Arrived at EDR: 01/18/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 34

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 04/10/2006
Next Scheduled EDR Contact: 08/07/2006
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 03/27/2006
Date Data Arrived at EDR: 03/28/2006
Date Made Active in Reports: 05/01/2006
Number of Days to Update: 34

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 03/27/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 07/07/1999
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 07/06/1999
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

City of El Segundo Underground Storage Tank

Date of Government Version: 02/27/2006
Date Data Arrived at EDR: 02/28/2006
Date Made Active in Reports: 03/23/2006
Number of Days to Update: 23

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 02/27/2006
Next Scheduled EDR Contact: 05/15/2006
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Date of Government Version: 03/28/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 02/24/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Date of Government Version: 02/27/2006
Date Data Arrived at EDR: 02/28/2006
Date Made Active in Reports: 03/23/2006
Number of Days to Update: 23

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 02/27/2006
Next Scheduled EDR Contact: 05/15/2006
Data Release Frequency: Semi-Annually

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 01/31/2006
Date Data Arrived at EDR: 03/24/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 20

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 02/13/2006
Next Scheduled EDR Contact: 05/15/2006
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Date of Government Version: 02/14/2006
Date Data Arrived at EDR: 02/28/2006
Date Made Active in Reports: 03/13/2006
Number of Days to Update: 13

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 02/15/2006
Next Scheduled EDR Contact: 05/15/2006
Data Release Frequency: Varies

City of Los Angeles Landfills

Date of Government Version: 03/01/2005
Date Data Arrived at EDR: 03/18/2005
Date Made Active in Reports: 04/08/2005
Number of Days to Update: 21

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 03/15/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/05/2006
Date Data Arrived at EDR: 02/16/2006
Date Made Active in Reports: 03/13/2006
Number of Days to Update: 25

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 02/03/2006
Next Scheduled EDR Contact: 05/15/2006
Data Release Frequency: Annually

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 02/10/2006
Date Data Arrived at EDR: 02/28/2006
Date Made Active in Reports: 03/23/2006
Number of Days to Update: 23

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 05/01/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination

Date of Government Version: 04/03/2006
Date Data Arrived at EDR: 04/04/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 9

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 03/27/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: Semi-Annually

Closed and Operating Underground Storage Tank Sites

Date of Government Version: 04/03/2006
Date Data Arrived at EDR: 04/04/2006
Date Made Active in Reports: 05/01/2006
Number of Days to Update: 27

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 03/27/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: Annually

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 02/01/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 17

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 03/08/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 03/01/2006
Date Data Arrived at EDR: 03/29/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 15

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 03/08/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 03/01/2006
Date Data Arrived at EDR: 03/28/2006
Date Made Active in Reports: 05/01/2006
Number of Days to Update: 34

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 03/08/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 04/03/2006
Date Data Arrived at EDR: 04/04/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 9

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 03/20/2006
Next Scheduled EDR Contact: 06/19/2006
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Underground Storage Tank Tank List

Date of Government Version: 02/09/2006
Date Data Arrived at EDR: 02/10/2006
Date Made Active in Reports: 03/09/2006
Number of Days to Update: 27

Source: Health Services Agency
Telephone: 951-358-5055
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Quarterly

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 02/09/2006
Date Data Arrived at EDR: 02/10/2006
Date Made Active in Reports: 03/13/2006
Number of Days to Update: 31

Source: Department of Public Health
Telephone: 951-358-5055
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS - Contaminated Sites

Date of Government Version: 02/02/2006
Date Data Arrived at EDR: 02/13/2006
Date Made Active in Reports: 03/13/2006
Number of Days to Update: 28

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 05/02/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

ML - Regulatory Compliance Master List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/02/2006
Date Data Arrived at EDR: 02/10/2006
Date Made Active in Reports: 03/13/2006
Number of Days to Update: 31

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 05/02/2006
Next Scheduled EDR Contact: 07/31/2006
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 03/22/2006
Date Data Arrived at EDR: 03/23/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 21

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 05/16/2005
Date Data Arrived at EDR: 05/18/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 29

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 04/28/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 11/01/2005
Date Data Arrived at EDR: 12/29/2005
Date Made Active in Reports: 01/19/2006
Number of Days to Update: 21

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 02/20/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: Varies

SAN FRANCISCO COUNTY:

Local Oversite Facilities

Date of Government Version: 03/16/2006
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 27

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: Quarterly

Underground Storage Tank Information

Date of Government Version: 03/16/2006
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 27

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 02/28/2006
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 27

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/17/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Semi-Annually

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 01/09/2006
Date Data Arrived at EDR: 01/10/2006
Date Made Active in Reports: 01/31/2006
Number of Days to Update: 21

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 04/26/2006
Next Scheduled EDR Contact: 07/10/2006
Data Release Frequency: Annually

Fuel Leak List

Date of Government Version: 01/11/2006
Date Data Arrived at EDR: 01/12/2006
Date Made Active in Reports: 01/31/2006
Number of Days to Update: 19

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 04/10/2006
Next Scheduled EDR Contact: 07/10/2006
Data Release Frequency: Semi-Annually

SANTA CLARA COUNTY:

Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/28/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: No Update Planned

LOP Listing

A listing of open leaking underground storage tanks.

Date of Government Version: 03/29/2006
Date Data Arrived at EDR: 03/30/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 14

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 03/28/2006
Next Scheduled EDR Contact: 06/26/2006
Data Release Frequency: Varies

Hazardous Material Facilities

Date of Government Version: 03/09/2006
Date Data Arrived at EDR: 03/13/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 31

Source: City of San Jose Fire Department
Telephone: 408-277-4659
Last EDR Contact: 03/06/2006
Next Scheduled EDR Contact: 06/05/2006
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks

Date of Government Version: 12/13/2005
Date Data Arrived at EDR: 12/14/2005
Date Made Active in Reports: 01/19/2006
Number of Days to Update: 36

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/27/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Quarterly

Underground Storage Tanks

Date of Government Version: 10/13/2005
Date Data Arrived at EDR: 10/31/2005
Date Made Active in Reports: 12/08/2005
Number of Days to Update: 38

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 04/13/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Quarterly

SONOMA COUNTY:

Leaking Underground Storage Tank Sites

Date of Government Version: 01/23/2006
Date Data Arrived at EDR: 01/23/2006
Date Made Active in Reports: 02/21/2006
Number of Days to Update: 29

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 04/26/2006
Next Scheduled EDR Contact: 07/24/2006
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Date of Government Version: 12/31/0005
Date Data Arrived at EDR: 01/05/2006
Date Made Active in Reports: 01/31/2006
Number of Days to Update: 26

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 05/08/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Semi-Annually

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 02/24/2006
Date Data Arrived at EDR: 03/31/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 13

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/15/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 08/01/2005
Date Data Arrived at EDR: 09/20/2005
Date Made Active in Reports: 10/06/2005
Number of Days to Update: 16

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 02/20/2006
Next Scheduled EDR Contact: 05/22/2006
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 02/24/2006
Date Data Arrived at EDR: 03/27/2006
Date Made Active in Reports: 04/13/2006
Number of Days to Update: 17

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/15/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 12/29/2005
Date Data Arrived at EDR: 01/20/2006
Date Made Active in Reports: 02/15/2006
Number of Days to Update: 26

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/10/2006
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Date of Government Version: 01/18/2006
Date Data Arrived at EDR: 02/09/2006
Date Made Active in Reports: 03/09/2006
Number of Days to Update: 28

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 04/11/2006
Next Scheduled EDR Contact: 07/17/2006
Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/17/2006
Date Made Active in Reports: 04/07/2006
Number of Days to Update: 49

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 03/13/2006
Next Scheduled EDR Contact: 06/12/2006
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 04/24/2006
Date Made Active in Reports: 05/02/2006
Number of Days to Update: 8

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 03/17/2006
Next Scheduled EDR Contact: 07/03/2006
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/01/2006
Date Made Active in Reports: 04/20/2006
Number of Days to Update: 50

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 03/01/2006
Next Scheduled EDR Contact: 05/29/2006
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 05/02/2006
Number of Days to Update: 46

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/17/2006
Next Scheduled EDR Contact: 07/10/2006
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

SALT CREEK PARCELS
SALT CREEK PARCELS
REDDING, CA 96001

TARGET PROPERTY COORDINATES

Latitude (North):	40.58830 - 40˚ 35' 17.9"
Longitude (West):	122.4408 - 122˚ 26' 26.9"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	547322.4
UTM Y (Meters):	4492995.0
Elevation:	746 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	40122-E4 REDDING, CA
Most Recent Revision:	1969

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

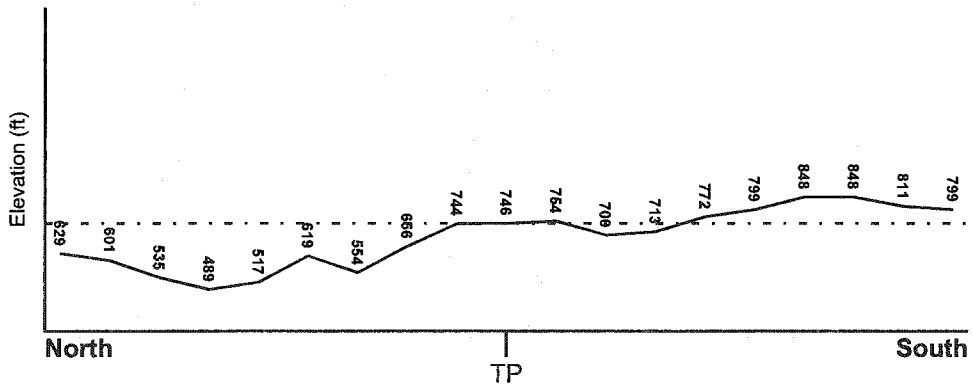
TOPOGRAPHIC INFORMATION

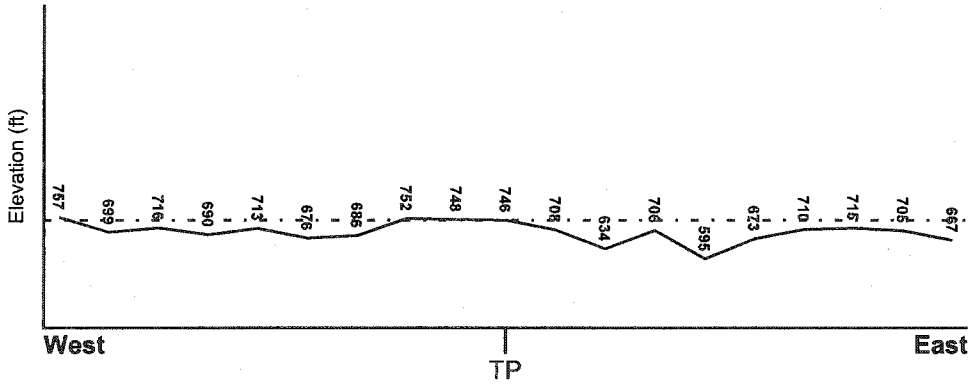
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 746 ft.

0 1/2 1 Miles

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
SHASTA, CA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:	0603600015C
Additional Panels in search area:	0603600005C 0603580680C

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
REDDING	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Paleozoic
System:	Silurian
Series:	Lower Paleozoic
Code:	IPze *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Eugeosynclinal Deposits

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name:	GOULDING
Soil Surface Texture:	very stony - loam
Hydrologic Group:	Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.
Soil Drainage Class:	Somewhat excessive. Soils have high hydraulic conductivity and low water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel:	MODERATE
Depth to Bedrock Min:	> 8 inches
Depth to Bedrock Max:	> 20 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	4 inches	very stony - loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 2.00 Min: 0.60	Max: 6.50 Min: 5.10
2	4 inches	17 inches	very gravelly - loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel. COARSE-GRAINED SOILS, Gravels, Gravels with fines, Clayey Gravel.	Max: 2.00 Min: 0.60	Max: 6.50 Min: 5.10
3	17 inches	21 inches	unweathered bedrock	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: very stony - clay loam
clay loam
unweathered bedrock
stony - clay loam
gravelly - loam
loam
very stony - sandy loam
sandy loam

Surficial Soil Types: very stony - clay loam
clay loam
unweathered bedrock
stony - clay loam
gravelly - loam
loam
very stony - sandy loam
sandy loam

Shallow Soil Types: sandy loam
sandy clay loam
clay loam

Deeper Soil Types: weathered bedrock

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

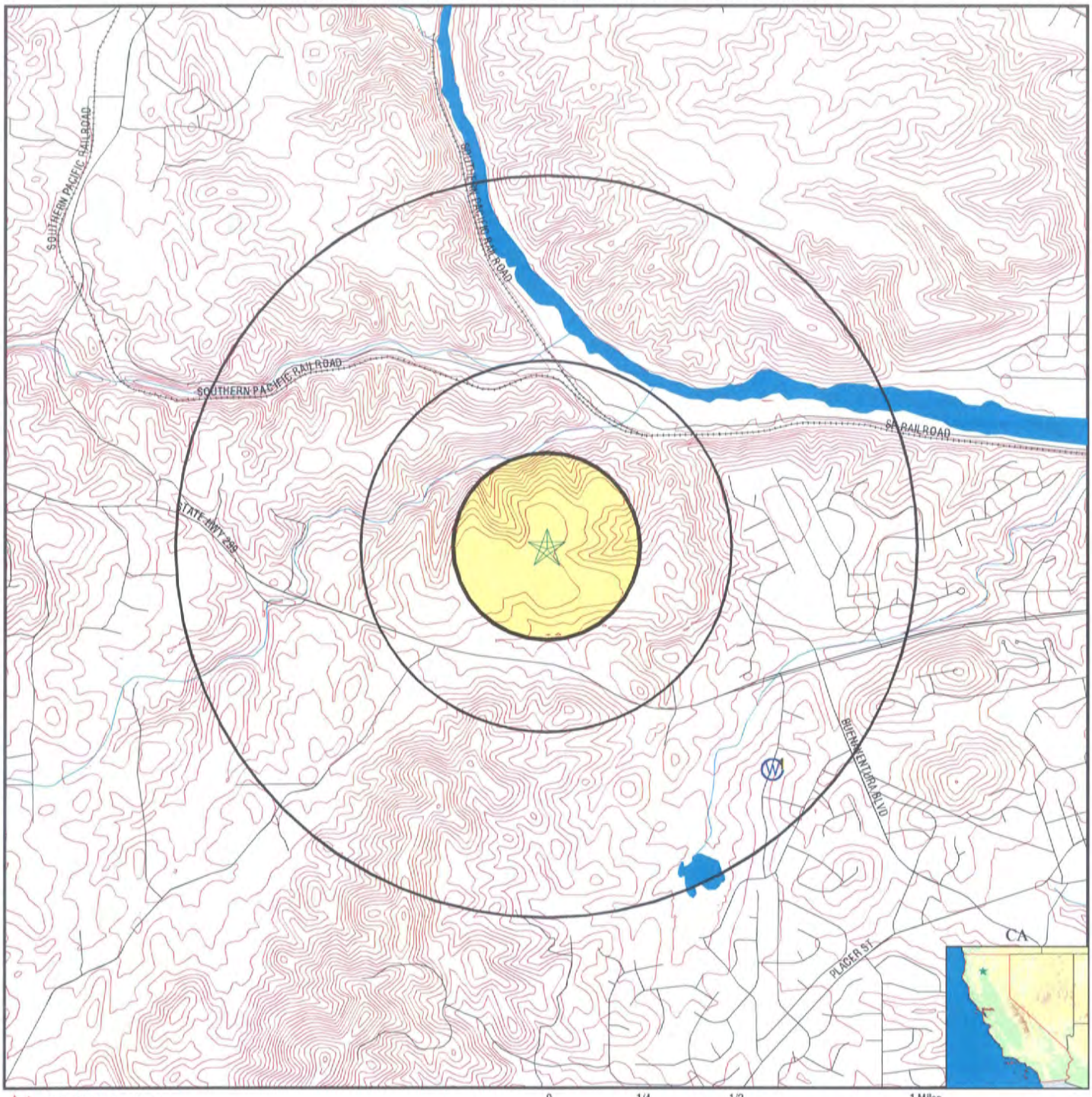
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	22067	1/2 - 1 Mile SE

PHYSICAL SETTING SOURCE MAP - 1671051.2s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME: Salt Creek Parcels ADDRESS: Salt Creek Parcels Redding CA 96001 LAT/LONG: 40.5883 / 122.4408	CLIENT: Enplan CONTACT: Denise Dethlefsen INQUIRY #: 1671051.2s DATE: May 08, 2006

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation	Database	EDR ID Number
1 **SE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**22067**

Water System Information:

Prime Station Code:	A45/005-SYSTM22	User ID:	ATT
FRDS Number:	4510005051	County:	Shasta
District Number:	01	Station Type:	WELL/RIVER/MUN/TTHM
Water Type:	M	Well Status:	Distribution System Sample Point Treated
Source Lat/Long:	403447.0 1222541.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	TTHM SAMPLE SITE - 1387 RIDGE RD.		
System Number:	4510005		
System Name:	City of Redding		
Organization That Operates System:			
	760 PARKVIEW REDDING, CA 96001		
Pop Served:	80000	Connections:	23469
Area Served:	CITY OF REDDING		

Sample Information: * Only Findings Above Detection Level Are Listed

Sample Collected:	10/22/1993	Findings:	26.000 UG/L
Chemical:	TOTAL TRIHALOMETHANES		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zip	Total Sites	> 4 Pci/L	Pct. > 4 Pci/L
96001	21	0	0.00

Federal EPA Radon Zone for SHASTA County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 96001

Number of sites tested: 11

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.536 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW[R] Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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APPENDIX F

EDR Environmental Lien Search Report

EDR® Environmental Data Resources Inc

netr Real Estate Research & Information

The EDR Environmental Lien Search Report

SALT CREEK PARCELS
REDDING, CALIFORNIA

Monday, May 22, 2006

Project Number: L06-2615

The Standard In Environmental Risk Management Information

440 Wheelers Farm Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

ENVIRONMENTAL LIEN REPORT

The EDR Environmental Lien Search Report is intended to assist in the search for environmental liens filed in land title records.

TARGET PROPERTY INFORMATION

ADDRESS

SALT CREEK PARCELS
REDDING, CALIFORNIA

DEED INFORMATION

Type of Deed: WD ☐ QCD ☐ Other ☒ DEED

Title is vested in: Cleve F. Beck and Elizabeth H. Beck

Title received from: Balbina Alvernaz

Deed Recorded: 11-01-1977
Instrument: 1977-0035273

LEGAL DESCRIPTION

Description: All that certain piece or parcel of land being portions of Section 1, 2, 3 and 4 P. B. Reading Grant, Rancho San Buena Ventura, lying and situate in the City of Redding, County of Shasta, State of California.

Assessor's Parcel Numbers: 204-030-023-000 and 204-030-036-000

ENVIRONMENTAL LIEN

Environmental Lien: **Yes** ☐ **No** ☒

If yes:

1st Party:

2nd Party:

Dated:
Recorded:
Book:
Page:
Comments:

APPENDIX G

Qualifications Statement

AMY LEE
Environmental Assessor

Education: Bachelor of Science in Forestry and Natural Resource Management, June 1994, California Polytechnic State University, San Luis Obispo, CA, GPA 3.5

40-Hour OSHA Hazardous Materials Course and Yearly 8-Hour Refresher Course

Registered Environmental Assessor I-07387

Amy Lee has more than eleven years experience in performing all aspects of environmental site assessments, site characterizations, and remediation plans in conformance with ASTM Standards. Mrs. Lee has performed Phase I and Phase II Assessments on commercial, industrial, and residential properties throughout California. Her work includes conducting site reconnaissances, evaluating historical research, reviewing regulatory agency records and government databases, interpreting aerial photographs, sampling soil and groundwater, interpreting laboratory data, and preparing final reports that include recommendations for remediation. Mrs. Lee has authored numerous Closure Reports, Work Plans, and Health and Safety Plans for regulatory agency submittal.

Representative Experience:

- *Phase I Environmental Site Assessments.* As a Registered Environmental Assessor, Mrs. Lee specializes in performing Phase I Environmental Site Assessments in conformance with ASTM Standard E1527-05. Phase I Environmental Site Assessments are conducted to identify recognized environmental conditions in connection with a property. The term "recognized environmental conditions" means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

- *Environmental Audits.* Mrs. Lee has conducted Site Closure Environmental Audits for properties in southern California. Services performed include an initial site reconnaissance to identify areas of potential environmental concern; soil and groundwater sampling and analysis; and preparation of a Site Closure Environmental Audit report.

- *Phase II Environmental Site Assessments.* Mrs. Lee has conducted numerous Phase II Environmental Site Assessments on properties located throughout the state of California. Phase II studies have been performed to determine the presence or absence of soil and groundwater contamination at a property after a

recognized environmental condition has been identified during the course of a Phase I Environmental Site Assessment. Mrs. Lee has experience identifying and defining petroleum hydrocarbon, solvents, agricultural chemicals, and metals-based contamination plumes in both the soil and groundwater.

- *Soil Remediation*. Following the identification and delineation of contamination plumes, Mrs. Lee has coordinated and overseen soil remediation activities including remediation by excavation and in-situ bio-remediation.

- *Regulatory Agency Case Closure*. Mrs. Lee has authored several Closure Reports for regulatory agency submittal following successful remediation of contaminated properties. Mrs. Lee also authors Closure Reports for underground storage tank removal activities.

Appendix 15.3
Traffic Impact Analysis

Salt Creek Heights Traffic Impact Analysis Report

Final Report

Prepared For:

Sierra Pacific Industries

Prepared By:

omni · means
ENGINEERS · PLANNERS

SALT CREEK HEIGHTS RESIDENTIAL DEVELOPMENT
TRAFFIC IMPACT ANALYSIS REPORT

FINAL REPORT

PREPARED FOR:
SIERRA PACIFIC INDUSTRIES

PREPARED BY

OMNI-MEANS, LTD.
ENGINEERS & PLANNERS
943 RESERVE DRIVE, SUITE 100
ROSEVILLE, CALIFORNIA 95678
(916) 782-8688
and
330 HARTNELL AVE;, SUITE B
REDDING, CALIFORNIA 96002
(530) 242-1700

June 1, 2009

45-6550-02
(R1155TS007.DOC)

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Level-of-Service Worksheets
Traffic Signal Warrant Worksheets

EXECUTIVE SUMMARY

This report has been prepared to present the results of a traffic impact analysis performed by OMNI-MEANS for the proposed Salt Creek Heights residential development in the City of Redding, in Shasta County. The subject property is located along the north side of SR 299 at the western City limits.

Per the City of Redding General Plan Map (http://www.ci.redding.ca.us/devserv/pdfs/generalplan.pdf), the proposed project is located on parcels that are currently designated as Residential (2 to 3.5 units per acre) and "Greenway". A review of the proposed project's site plan shows that, on build-out, the Salt Creeks residential project site would include up to ±500 dwelling units, of which ±350 are planned to be single family units, and ±150 are proposed to be multi-family units. The project will also include a 13 acre park, which is expected to include a soccer field, a softball field, and a basket ball court and other play areas.

For the purposes of this study, short-term and cumulative project development assumptions were made in consultation with the project applicant. Short-term development of the project will be completed by Year 2015 (assumed as the time year of analysis for Short Term conditions) and will include ±257 single-family units and 24 multi-family units. The park will also assumed to be completely built-out and fully functional under Year 2015 conditions. Full built-out of the project will be completed by Year 2030 (assumed as the time year of analysis for Cumulative conditions). At full build-out the Salt Creek Heights residential project is expected to include up to ±500 dwelling units: ±350 single-family units and ±150 multi-family units.

Short-term development of the proposed project would generate and distribute to area roadways 2,920 daily trips, 212 of which would occur during the AM peak-hour, and 288 of which would occur during the PM peak-hour. Cumulative development of the proposed project would generate an additional 1,504 daily trips, 118 of which would occur during the AM peak-hour, and 143 of which would occur during the PM peak-hour. Therefore, on complete build-out, the project is expected to generate 4,424 daily trips, 330 of which would occur during the AM peak-hour, and 431 of which would occur during the PM peak-hour.

The study analyzed project impacts during both AM and PM peak-hour for both *Short Term* (Year 2015) conditions (which assumes completion of approved and pending developments in the area) and *Cumulative* (2030) conditions. Impacts were analyzed at 25 critical study intersections, and along four connecting roadway segments in the vicinity of the project.

The traffic study shows that, unless mitigated, the following intersections either currently operate or would operate unacceptably under future scenarios (Short Term and Year 2030):

- Intersection #1) Eureka Way (SR 299)/ Lower Springs Rd.
- Intersection #2) Eureka Way (SR 299)/ Buenaventura Blvd.
- Intersection #3) Eureka Way (SR 299)/ Sunset Drive
- Intersection #9) Eureka Way (SR 299)/ West Street
- Intersection #10) Eureka Way (SR 299)/ Court Street
- Intersection #11) Court Street/ 11th Street
- Intersection #13) Eureka Way (SR 299)/ Market St. (SR 273)
- Intersection #14) Shasta Street/ Court Street
- Intersection #21) Placer Street/ Court Street
- Intersection #22) Placer Street/ Airpark Drive (Fig Ave.)
- Intersection #23) Placer Street/Pleasant St.
- Intersection #24) Placer Street/ Buenaventura Blvd.
- Intersection #25) Buenaventura Blvd./ Lakeside Drive

The study finds that *implementation of the following improvements would result in acceptable operations* for the above facilities:

Intersections:

#1) Eureka Way (SR299)/Lower Springs Road/Project Driveway:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:**
  - Alternative 1:
    - Signalize the intersection and provide split phasing on the northbound & southbound approaches
    - Widen the eastbound approach to add a dedicated left-turn lane.
    - Widen the westbound approach to add a dedicated right-turn lane.
  - Alternative 2:
    - If intersection #26 is implemented as a right-in, right-out, with left-in, then widen the southbound approach to provide one left-turn lane and a left-thru-right-turn lane and
    - Widen eastbound Eureka Way (SR299), east of the intersection to add an additional eastbound lane for approximately 1,620 feet.
  - The project's **impact is significant**.
- The project's fair-share at this intersection is 50%.

#2) Eureka Way (SR299)/Buenaventura Blvd.:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:**
  - Widen the southbound approach to include an exclusive left-turn lane, a shared through left-turn lane, and an exclusive right-turn lane.
  - Modify existing traffic signal to accommodate the widened roadway.
- **Cumulative Plus Project:**
  - Provide improvements recommended under *Cumulative No Project* conditions
  - The project's **impact is significant**.
- The project's fair-share at this intersection is 25%.

#3) Eureka Way (SR299)/Sunset Drive:

- **Existing Conditions:** Signalize the intersection.
- **Short Term No Project:** Provide improvements recommended for *Existing* conditions.
- **Short Term Plus Project:**
  - Provide improvements recommended for *Existing* conditions.
  - The project's **impact is significant**.
- **Cumulative No Project:** Provide improvements recommended for *Existing* conditions.
- **Cumulative Plus Project:**
  - Provide improvements recommended for *Existing* conditions.
  - The project's **impact is significant**.
- The project's fair-share at this intersection is 34%.

#4) Eureka Way (SR299)/Overhill Drive:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#5) Eureka Way (SR299)/Almond Avenue:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#6) Eureka Way (SR299)/Walnut Ave./Pioneer Dr.:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#7) Eureka Way (SR299)/Magnolia Ave.:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#8) Eureka Way (SR299)/11th St.:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#9) Eureka Way (SR299)/West St.:

- **Existing Conditions:** No improvements recommended
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#10) Eureka Way (SR299)/Court St.:

- **Existing Conditions:**
  - Widen the eastbound approach to include one left-turn lane, two through lanes, and one shared through right-turn lane.

- Widen the westbound approach to include one left-turn lane, two through lanes, and one shared through right-turn lane.
- Re-stripe the northbound approach to include one left-turn lane, one shared through left-turn lane, and one exclusive right-turn lane.
- Modify existing traffic signal to accommodate the widened roadway.

- **Short Term No Project:**
  - Widen the eastbound approach to include one left-turn lane, three through lanes, and one exclusive right-turn lane.
  - Widen the westbound approach to include one left-turn lane, three through lanes, and one exclusive.
  - Re-stripe the northbound approach to include one left-turn lane, one shared through left-turn lane, and one exclusive right-turn lane.
  - Modify existing traffic signal to accommodate the widened roadway.
- **Short Term Plus Project:**
  - Provide improvements recommended for *Short Term No Project* conditions.
  - The project's impact is **not significant**
- **Cumulative No Project:**
  - Widen the eastbound approach to include one left-turn lane, three through lanes, and one exclusive right-turn lane.
  - Widen the westbound approach to include one left-turn lane, three through lanes, and one exclusive.
  - Widen the northbound approach to include two left turn lanes, one through lane, and one exclusive right-turn lane.
  - Widen the southbound approach to include one left-turn lane, one through lane, and one exclusive right-turn lane.
  - Modify existing traffic signal to accommodate the widened roadway.
- **Cumulative Plus Project:**
  - Provide improvements recommended under *Cumulative No Project* conditions.
  - The project's impact is **not significant**.
- The project's fair-share at this intersection is 11%.

#11)Court Street/11th Street:

- **Existing Conditions:** Signalize the intersection.
- **Short Term No Project:** Provide improvements recommended for *Existing* conditions.
- **Short Term Plus Project:**
  - Provide improvements recommended for *Existing* conditions.
  - The project's **impact is significant**.
- **Cumulative No Project:** Provide improvements recommended for *Existing* conditions.
- **Cumulative Plus Project:**
  - Provide improvements recommended under *Existing* conditions.
  - The project's **impact is significant**.
- The project's fair-share at this intersection is 28%.

#12) Eureka Way (SR299)/California Street:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#13) Eureka Way (SR299)/Market St. (SR 273/SR 299):

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended..
- **Cumulative No Project:**
  - Increase the cycle length.
  - Optimize splits and signal timings.
- **Cumulative Plus Project:**
  - Provide improvements recommended under *Cumulative No Project* conditions.
  - The project's impact is **not significant**.

Note: Adjusting the signal timing is part of the standard ongoing signal operations work performed by Caltrans. It is anticipated that Caltrans will make incremental signal timing adjustments on a regular basis as deemed appropriate by Caltrans. Therefore, project specific mitigation is not appropriate or necessary.

- The project's fair-share at this intersection is 18%.

#14) Shasta Street/Court Street:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:**
  - Improve and re-stripe the westbound approach to include one left-turn pocket, one shared through right-left turn lane, and one right-turn pocket.
  - The exclusive left-turn lane must be approximately 290 feet long and span the entire length of Shasta Street, between Court Street and Oregon Street.
- **Cumulative Plus Project:**
  - Provide improvements recommended under *Cumulative No Project* conditions
  - The project's impact is **not significant**.
- The project's fair-share at this intersection is 1%.

#15) Shasta Street/Market Street (SR 273):

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#16) Shasta Street (SR 44) /Pine St. (SR 273):

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#17) Shasta Street (SR 44) /East Street:

- **Existing Conditions:** No improvements recommended.

- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#18) Tehama Street (SR 273)/Market Street (SR 273):

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#19) Tehama Street (SR 44) /Pine St. (SR 273):

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended
  - The project's impact is not significant.

#20) Tehama Street (SR 44) /East Street (SR 273):

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#21) Placer Street/Court Street:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:** No improvements recommended.
- **Short Term Plus Project:** No improvements recommended.
- **Cumulative No Project:**
  - Widen the northbound approach to include one left-turn lane, two through lanes, and one exclusive right-turn lane.
  - Widen the southbound approach to include one left-turn lane, two through lanes, and one exclusive right-turn lane.
  - Modify existing traffic signal to accommodate the widened roadway.
- **Cumulative Plus Project:**
  - Provide improvements recommended under *Cumulative No Project* conditions.
  - The project's impact is **not significant**.
- The project's fair-share at this intersection is 6%.

#22) Placer Street/Airpark Drive/Fig Avenue:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:**
  - Re-stripe the westbound approach to include one left-turn lane, one through lane, and one shared through right-turn lane.

- Widen the eastbound approach to one left-turn lane, two through lanes, and one exclusive right-turn lane.
- Modify existing traffic signal to accommodate the widened roadway.

- **Short Term Plus Project:**
  - Provide improvements recommended for *Short Term No Project* conditions.
  - The project's **impact is significant**.
- **Cumulative No Project:**
  - Provide improvements recommended for *Short-Term No Project* conditions.
- **Cumulative Plus Project:**
  - Provide improvements recommended under *Short-Term No Project* conditions.
  - The project's impact is **not significant**.
- The project's fair-share at this intersection is 19%.

#23) Placer Street/Pleasant Street:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:**
  - Improve the eastbound approach to include one left-turn lane, one through lane, and one shared through right-turn lane.
  - Improve the westbound approach to include one left-turn lane, one through lane, and one shared through right-turn lane.
  - Modify existing traffic signal to accommodate the widened roadway.
- **Short Term Plus Project:**
  - Provide improvements recommended for *Short Term No Project* conditions.
  - The project's impact is **not significant**.
- **Cumulative No Project:** No improvements recommended.
- **Cumulative Plus Project:** No improvements recommended.

#24) Placer Street/Buenaventura Blvd.:

- **Existing Conditions:** No improvements recommended.
- **Short Term No Project:**
  - Widen all four approaches to include one left-turn lane, two through lanes, and one exclusive right-turn lane.
  - Modify existing traffic signal to accommodate the widened roadway.
- **Short Term Plus Project:**
  - Provide improvements recommended for *Short Term No Project* conditions.
  - The project's impact is **not significant**.
- **Cumulative No Project:**
  - Widen the northbound approach to include one left-turn lane, two through lanes, and one exclusive right-turn lane.
  - Widen the southbound approach to include one left-turn lane, two through lanes, and one exclusive right-turn lane.
  - Widen the eastbound approach to include one left-turn lane, two through lanes, and one shared through right-turn lane. This shared through right-turn lane must continue past the intersection as an additional eastbound through lane.
  - Widen the westbound approach to include dual left-turn lanes, two through lanes, and one exclusive right-turn lane.
  - Modify existing traffic signal to accommodate the widened roadway.
- **Cumulative Plus Project:**
  - Provide improvements recommended under *Cumulative No Project* conditions.

- The project's **impact is significant**.
- The project's fair-share at this intersection is 18%.

#25) Buenaventura Boulevard/Lakeside Drive:

- **Existing Conditions:** Signalize the intersection.
- **Short Term No Project:** Provide improvements recommended under *Existing* conditions.
- **Short Term Plus Project:**
  - Provide improvements recommended for *Existing* conditions.
  - The project's **impact is significant.**
- **Cumulative No Project:**
  - Signalize the intersection.
  - Widen the eastbound approach to include one left-turn lane, and one shared through-right-turn lane.
- **Cumulative Plus Project:**
  - Provide improvements recommended under *Cumulative No Project* conditions.
  - The project's **impact is significant**.
- The project's fair-share at this intersection is 22%.

#26) Eureka Way (SR 299)/Road B:

- **Short Term Plus Project:** No improvements recommended.
- **Cumulative Plus Project:**
  - Signalize the intersection (or)
  - Restrict access at this driveway to allow right-in, right-out and left-in movements only.
  - The project's **impact is significant**.
  - The project developer is completely responsible for the improvements.

The City of Redding has a City-wide Traffic Impact Fee (TIF) Program (Fee as of 01/15/2009: $5,589.76 for single-family homes and $3,596.30 for multi-family dwelling units) that will be applicable to this project.

EXECUTIVE SUMMARY TABLE 1

SUMMARY OF INTERSECTION OPERATIONS	Eureka Way (SR 299)/Lower Springer Rd	Eureka Way (SR 299)/Buenaventura Blvd	Eureka Way (SR 299)/Sunset Dr	Eureka Way (SR 299)/Osterhoff Dr.	Eureka Way (SR 299)/Almond Ave	Eureka Way (SR 299)/Alvarado Dr.	Eureka Way (SR 299)/Magnolia Ave	Eureka Way (SR 299)/11th St	Eureka Way (SR 299)/West St.	Eureka Way (SR 299)/Court St.	Court St./11th St.	Eureka Way (SR 299)/California St.	Eureka Way (SR 299)/Main St (SR 273/SR 299)	Shasta St./Court St.	Shasta St./Market St (SR 273)	Shasta St (SR 44)/Pine St (SR 273)	Shasta St (SR 44)/Court St.	Tehama St (SR 44)/Pine St (SR 273)	Tehama St (SR 44)/Court St (SR 273)	Placer St./Court St.	Placer St./Alpine Dr./Pine St.	Placer St./Diamond St.	Placer St./Buenaventura Blvd	Buenaventura Blvd/Lassen Dr	Eureka Way (SR 299)/Redwood Dr	
Control Type	TWSC	Signal	TWSC	TWSC	TWSC	Signal	Signal	TWSC	TWSC	Signal	TWSC	Signal	Signal	Signal	Signal	Signal	Signal	Signal	Signal	Signal	Signal	Signal	Signal	Signal	TWSC	TWSC	
Target LOS	D	D	D	D	D	D	D	D	D	D	C	D	D	C	D	D	D	D	D	D	C	C	C	C	C	D	
AM PEAK HOUR	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	
Existing	B 12.1	C 20.2	F 99.5	C 19.4	C 17.1	B 17.7	C 24.9	C 17.9	F 380.1	F 272.1	F 509.2	B 15.0	C 28.5	C 31.2	C 26.0	B 18.8	A 8.5	A 1.2	A 10.0	B 19.6	C 27.1	C 24.0	C 26.0	C 26.7	F 79.6		
Warrant Met?	No	-	Yes	No	No	-	-	No	No	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	No		
Short Term No Project	B 12.5	C 23.7	F 67.1	C 20.4	C 18.0	B 18.8	C 31.5	C 20.4	F 414.4	F 276.4	F 265.8	B 15.7	D 48.4	C 33.9	C 26.4	B 19.1	B 10.6	A 4.8	B 10.9	B 19.8	C 33.9	D 46.3	E 68.3	D 45.5	F 172.4		
Warrant Met?	No	-	Yes	No	No	-	-	-	No	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	No		
Short Term Plus Project	D 32.3	C 27.8	F 94.8	C 21.7	C 19.5	B 19.2	C 33.0	C 21.3	F 450.8	F 276.4	F 283.5	B 15.9	D 52.4	C 33.9	C 26.4	B 19.2	B 10.6	A 4.8	B 11.0	B 20.0	C 33.9	D 47.8	E 67.8	D 48.2	F 233.7	20.8	C
Delay Increase Due to Project	19.8	4.1	27.1	1.3	1.5	0.4	1.5	0.9	65.6	0.0	16.5	0.2	4.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.0	1.5	4.5	2.7	61.0		
Delay Increase Significant?			Sig.						Sig.		Sig.														Sig.		
Warrant Met?	No	-	Yes	No	No	-	-	-	No	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	Yes		-
Year 2030 Base No Project	B 13.5	E 55.8	F 299.2	D 29.4	D 26.7	C 20.9	D 49.9	C 24.5	F OVR	F 311.9	F 247.8	B 18.8	E 66.6	D 38.6	D 48.0	C 20.6	B 12.0	A 7.7	B 12.7	C 21.5	D 41.5	E 65.7	B 19.8	E 67.3	F 490.8		
Warrant Met?	No	-	Yes	-	-	-	-	-	No	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	Yes		
Year 2030 Base Plus Project	F 75.9	E 65.7	F 641.4	D 34.6	D 32.3	C 22.3	D 52.8	D 26.5	F OVR	F 312.1	F 273.6	B 19.1	E 73.5	D 39.8	D 47.5	C 20.7	B 12.4	A 7.8	B 13.0	C 21.6	D 42.6	E 66.4	B 19.9	E 74.3	F 911.5	68.4	F
Delay Increase Due to Project	62.4	9.9	142.2	5.2	5.6	1.4	2.9	2.0		0.5	24.3	0.3	6.9	0.4	-0.5	0.1	0.4	0.1	0.3	0.1	0.7	3.3	0.1	7.0	220.5		
Delay Increase Significant?	Sig.	Sig.	Sig.						Sig.		Sig.		Sig.											Sig.	Sig.	Sig	
Warrant Met?	Yes	-	Yes	No	No	-	-	No	No	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	Yes	Yes	
PM PEAK HOUR	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	LOS Delay	
Existing	B 11.7	C 20.3	F 95.0	C 18.2	B 13.9	B 11.3	A 9.5	C 21.0	F 71.4	E 42.5	F 888.4	B 15.1	C 27.7	C 27.4	C 26.0	C 21.9	B 14.8	A 2.6	B 17.9	C 28.5	C 26.7	C 29.2	C 24.1	C 29.2	D 51.7		
Warrant Met?	No	-	Yes	No	No	-	-	No	No	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	No		
Short Term No Project	B 12.8	C 21.7	F 91.5	C 18.4	B 14.4	B 11.3	B 13.9	C 20.5	F 332.2	F 89.5	F 201.4	B 16.4	D 51.8	C 29.1	C 26.1	C 22.9	B 19.6	A 2.6	B 15.1	C 28.9	C 29.5	E 74.5	C 26.9	D 45.3	E 41.8		
Warrant Met?	No	-	Yes	No	No	-	-	-	No	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	No		
Short Term Plus Project	D 30.1	C 25.7	F 153.5	C 20.3	C 15.4	B 14.3	B 16.8	C 23.0	F OVR	F 92.1	F 218.8	B 16.5	D 52.6	C 30.4	C 26.1	C 23.2	C 20.7	A 2.6	B 15.3	C 29.0	C 29.5	F 80.2	C 26.9	D 45.7	F 65.4	28.0	D
Delay Increase Due to Project	17.3	4.0	62.0	1.9	1.0	3.0	2.9	2.5		2.5	15.2	0.1	0.8	1.3	0.0	0.3	1.1	0.0	0.2	0.1	0.0	5.3	0.0	2.4	13.6		
Delay Increase Significant?			Sig.						Sig.		Sig.											Sig.			Sig.		
Warrant Met?	No	-	Yes	No	No	-	-	-	No	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	No		-
Year 2030 Base No Project	B 13.8	C 34.5	F 427.6	C 21.2	B 14.5	B 15.8	B 17.1	C 22.9	F OVR	F 366.5	F 191.1	C 20.9	E 71.9	D 41.3	D 35.1	C 26.6	B 15.8	A 7.5	B 17.0	C 28.0	C 29.9	D 39.7	B 19.8	D 39.5	F 238.4		
Warrant Met?	No	-	Yes	-	-	-	-	-	Yes	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	Yes		
Year 2030 Base Plus Project	F 78.4	D 39.2	F 748.4	D 25.9	C 16.1	B 12.7	B 18.4	D 27.9	F OVR	F 369.8	F 211.5	C 21.6	E 77.8	D 41.8	D 35.1	C 27.3	B 17.0	A 8.5	B 17.2	C 28.2	C 30.0	D 43.4	B 18.3	D 43.9	F 384.8	45.8	E
Delay Increase Due to Project	58.6	4.7	312.8	4.7	1.6	-3.1	1.3	5.0		1.3	20.4	0.7	6.6	0.5	0.0	0.7	1.2	1.0	0.2	0.2	0.1	3.7	-1.5	3.5	155.9		
Delay Increase Significant?	Sig.		Sig.						Sig.		Sig.		Sig.												Sig.	Sig.	
Warrant Met?	No	-	Yes	No	No	-	-	No	Yes	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	Yes	Yes	

Notes:

OVR - Overflow Conditions, LOS - Level of Service

***Signalized Intersections**: The project is considered to have a significant effect if it would:*

1) Result in a roadway or signalized intersection operating at an acceptable LOS under the no project (base conditions) to deteriorate to an unacceptable LOS: or

2) Increase the delay by more than 5 seconds at a signalized intersection that is/will operate at an unacceptable LOS without the project.

***Unsignalized Intersections**: The project is considered to have a significant effect if it would:*

1) Result in an unsignalized intersection movement/approach currently operating at an acceptable LOS to deteriorate to an unacceptable LOS, and/or also cause the intersection to meet the peak hour signal warrant: or

2) For an unsignalized intersection that meets the peak hour signal warrant, increase the delay by more than 5 seconds at a movement/approach that is operating at an unacceptable LOS without the project.

EXECUTIVE SUMMARY TABLE 2

Roadway Level Of Services	SR 299 - Lower Springs Rd. to Buenaventura Blvd.								SR 299 - Buenaventura Blvd. to Court St.							
Target LOS	D								D							
Arterial Class	II								II							
	Eastbound				Westbound				Eastbound				Westbound			
	AM peak hour		PM peak hour		AM peak hour		PM peak hour		AM peak hour		PM peak hour		AM peak hour		PM peak hour	
	Art. Speed	**LOS**	**Art. Speed**	**LOS**	**Art. Speed**	**LOS**	**Art. Speed**	**LOS**	**Art. Speed**	**LOS**	**Art. Speed**	**LOS**	**Art. Speed**	**LOS**	**Art. Speed**	**LOS**
Existing	37.6	A	37.5	A	48.4	A	47.6	A	30.1	B	33.5	B	31.9	B	34.2	B
Short-Term No Project	36.5	A	37.6	A	48.1	A	46.5	A	32.3	B	32.7	B	30.8	B	33.7	B
Short-Term + Project	36.9	A	37.5	A	48.2	A	47.8	A	29.1	B	32.4	B	30.7	B	32.8	B
Year 2030 Base	31.4	B	34.6	B	48.1	A	46.9	A	28.6	B	32.4	B	27.1	C	30.3	B
Year 2030 Base + Project	27.4	C	33.7	B	47.9	A	47.5	A	27.2	C	32.2	B	26.8	C	29.6	B

Notes:

1. The project is considered to have a significant effect if it would:
   >Result in a roadway, operating under base conditions at an acceptable LOS, to deteriorate to an unacceptable LOS, or
   >Increase the V/C ratio by more than 0.05 (5%) on a roadway this is/will operate at an unacceptable LOS without the project.

INTRODUCTION

This report has been prepared to present the results of a traffic impact analysis performed by OMNI-MEANS for the proposed Salt Creek Heights residential development in the City of Redding, in Shasta County. The subject property is located along the north side of Eureka Way (SR 299) at the western City limits. Per the City of Redding's General Plan Map (http://www.ci.redding.ca.us/devserv/pdfs/generalplan.pdf), the parcels that constitute the project site are currently designated as Residential (2 to 3.5 units per acre) and "Greenway".

Based on information provided by the project applicant and a review of the proposed project's site plan, at build-out, the project would include ± 500 dwelling units, of which ± 350 are planned to be single family, and ± 150 are proposed to be multi-family units. The project will also include a 13 acre park, which is expected to include a soccer field, a softball field, a basketball court and other play areas. **Figure 1** illustrates the project location and project vicinity map.

Included in this report is a description of the existing transportation setting, including the current AM and PM peak-hour traffic operations at key intersections, and current daily operations along key roadways, which were selected for analysis in coordination with the City of Redding and Caltrans. In addition, this report includes an analysis and discussion of the following items:

- Quantification of the trip generation and trip distribution associated with the proposed project, and the resulting impacts on existing weekday AM and PM peak-hour intersection and daily roadway segment operations, assuming other regional approved/pending projects are in place.

- The projected Short Term (Year 2015) and Cumulative (Year 2030) weekday peak-hour intersection and daily roadway segment operations with and without the development of the proposed project.

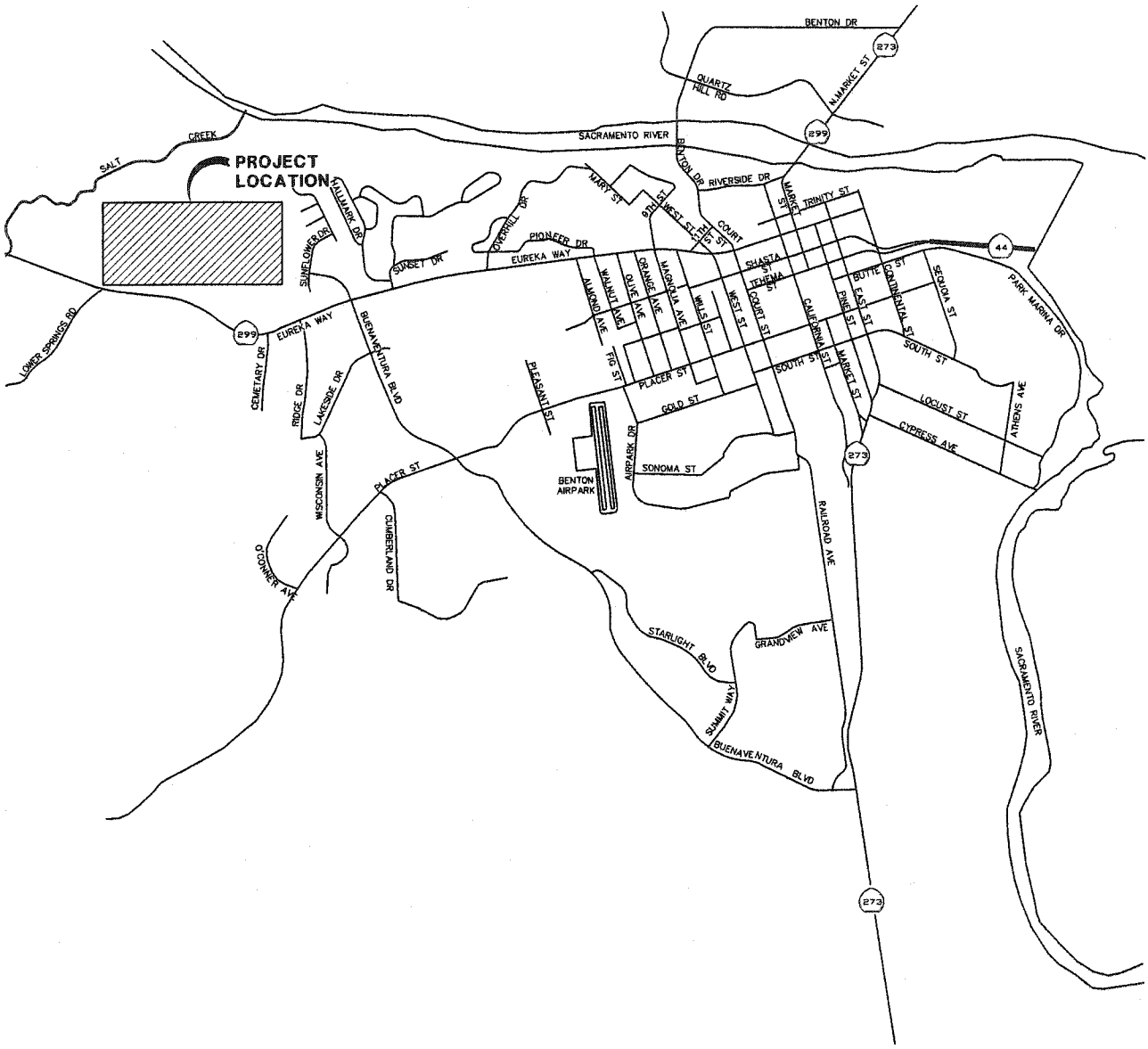
- Potential base improvements and project-related mitigation measures that are needed to alleviate unacceptable traffic operations at the study intersections and roadway segments.

The following traffic scenarios are analyzed as a part of this report:

- *Existing* Conditions
- *Short Term No Project (Year 2015)* Conditions
- *Short Term Plus Project (Year 2015)* Conditions
- *Cumulative No Project (Year 2030)* Conditions
- *Cumulative Plus Project (Year 2030)* Conditions

Existing conditions describes the existing transportation facilities serving the project site, and the traffic operations, which currently exist for those facilities.

Short Term conditions refer to analysis scenarios that will typically exist a few years in the future from *Existing* conditions (treated as Year 2015 for simplicity of analysis). *Short Term* conditions assume that some planned improvements might be completed, including potentially some project related improvements. The *Short Term No Project* condition investigates traffic operations following completion of approved and pending projects in the area, but excluding development of the proposed project. The



Salt Creek Residential Development - TIAR

Figure 1

Project Vicinity Map

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Short Term Plus Project condition is the analysis scenario in which traffic impacts associated with the proposed project (i.e., Salt Creek Heights) are investigated in comparison to the *Short Term No Project* condition scenario.

Cumulative conditions refer to analysis scenarios that would exist following approximately 20 years of assumed development in the City of Redding and Shasta County. Within this analysis, *Cumulative* conditions are assumed as those, which will exist in the year 2030 consistent with the current Shasta County Regional Travel Demand Forecast (SCRTDF) Model. The *Cumulative No Project* condition investigates traffic operations in Year 2030, but excluding development of the proposed project. The *Cumulative Plus Project* condition is the analysis scenario in which traffic impacts associated with the proposed project are investigated in comparison to the *Cumulative No Project* condition scenario.

The above traffic scenarios are described in further detail and evaluated in subsequent sections of this report.

EXISTING CONDITIONS

Existing conditions describes the existing transportation facilities and traffic operations serving the project site.

Roadways that provide primary circulation in the vicinity of the project site are as follows:

North Market Street (SR 273) operates as an arterial from the north end of the Central Business District to Benton Drive and as an expressway from Benton Drive to I-5. SR-273 merges/diverges with I-5 in south end of the City of Anderson and continues north through down town Redding until it reaches the north end where is connect directly to I-5. The facility is primarily a 4-lane divided roadway north and south of the downtown core with a speed limit ranging from 55-60 mph at its northern and southern sections near I-5, reducing incrementally to 25-35 mph within the downtown core.

SR 299 is an interregional highway that begins at US 101 in Humboldt County and traverses east through Humboldt, Trinity, Shasta, and Modoc Counties. Within the vicinity of the project site, the facility is labeled Eureka Way. Eureka Way (SR 299), from Lowersprings Road to the Cemetery Driveway is a two-lane undivided arterial and from the Cemetery Driveway to its intersection with SR 273 in downtown Redding, Eureka Way (SR299) functions as a four-lane divided arterial.

Buenaventura Blvd. in the vicinity of the project is a two-lane divided arterial from Market Street (SR 273), at its southern terminus, to Placer Street, a two-lane undivided arterial from Placer Street to Eureka Way (SR 299) and a two-lane undivided collector from Eureka Way (SR299) to its current terminus at Sunflower Drive. The facility provides an alternate connection between Eureka Way (SR 299) and Market Street (SR 273) by avoiding the busy downtown area. The City of Redding within its future roadway network section of the General Plan, shows Buenaventura Boulevard between Eureka Way (SR 299) and Keswick Dam Road to be a two-lane collector. As will be discussed in the project description section, the project developer will be required to develop and improve this facility north of Sunflower Drive up to the location of the project driveway.

Placer Street is a four lane arterial which begins at the Platina Road/ Clearcreek Road/Gas Point Road intersection outside the city limits, where it is designated as County Road A16 (Placer Road). Placer Road is a two lane undivided facility outside the City limits and traverses westerly beyond its intersection with Swasey Drive and up to the City limits, past which it is designated as Placer Street, and continues to its eventual terminus with Sequoia Street. The City of Redding General Plan calls for Placer Street between Airpark Drive and Cumberland Drive to be improved to a four lane arterial.

EXISTING TRAFFIC VOLUMES

Study Intersections

The following study intersections, which were established through consultations with City of Redding and Caltrans staff, will be included for existing, short-term and long-term traffic impact analysis, for conditions both without and with the proposed project for weekday AM and PM peak-hour conditions:

1. Eureka Way (SR 299)/ Lower Springs Rd.
2. Eureka Way (SR 299)/ Buenaventura Blvd.
3. Eureka Way (SR 299)/ Sunset Drive
4. Eureka Way (SR 299)/ Overhill Drive
5. Eureka Way (SR 299)/ Almond Ave.
6. Eureka Way (SR 299)/ Walnut Ave./ Pioneer Dr.
7. Eureka Way (SR 299)/ Magnolia Ave.
8. Eureka Way (SR 299)/ 11th Street
9. Eureka Way (SR 299)/ West Street
10. Eureka Way (SR 299)/ Court Street
11. Court Street/ 11th Street
12. Eureka Way (SR 299)/ California St.
13. Eureka Way (SR 299)/ Market St. (SR 273/ SR 299)
14. Shasta Street/ Court Street
15. Shasta Street/ Market Street (SR 273)
16. Shasta Street (SR 44)/ Pine Street (SR 273)
17. Shasta Street (SR 44)/ East Street
18. Tehama Street (SR 273)/ Market Street (SR 273)
19. Tehama Street (SR 44)/ Pine Street (SR 273)
20. Tehama Street (SR 44)/ East Street
21. Placer Street/ Court Street
22. Placer Street/ Airpark Drive/ Fig Ave.
23. Placer Street/ Pleasant Street
24. Placer Street/ Buenaventura Blvd.
25. Buenaventura Blvd./ Lakeside Drive

Roadway Segments

The following roadway segments were also selected in coordination with the City of Redding staff and Caltrans for analysis within this study and will be included for analysis within this study on an arterial segment operations basis for existing, short-term and long-term traffic conditions both without and with the proposed project. Arterial operations are quantified in terms of the average speed of vehicles traveling through a specific arterial segment.

1. Eureka Way (SR 299) between Lower Springs Rd. & Buenaventura Blvd.
2. Eureka Way (SR 299) between Buenaventura Blvd. & Court St.

Existing traffic counts for all intersections were conducted in May and September 2007. Existing traffic signal timings were obtained from Caltrans for all State Route intersections within this study.

The AM peak-hour is defined as the one continuous hour of peak traffic flow counted between 7:00 a.m. and 9:00 a.m., and the PM peak-hour is defined as the one continuous hour of peak traffic flow counted between 4:00 p.m. and 6:00 p.m. under typical weekday conditions. Roadway ADT counts at all roadway

segments were collected by OMNI-MEANS in May 2007. Bicycle and pedestrian counts were not collected since the bicycle and pedestrian volumes can be expected to be very low at the study intersections.

Intersection lane geometrics and traffic control for the critical study intersections are illustrated on **Figure 2. Figure 3** shows the existing intersection peak-hour traffic volumes.

EXISTING PEDESTRIAN FACILITIES

The City of Redding's Transportation Element contains the following policy regarding pedestrian facilities:

> *Policy T6B - Require new development to provide sidewalks or other pedestrian-dedicated facilities on both sides of new public streets. Exceptions may be appropriate where topography is difficult, proposed lots are of a rural or semi-rural nature or where the development plan illustrates that pedestrians will be accommodated by alternative means.*

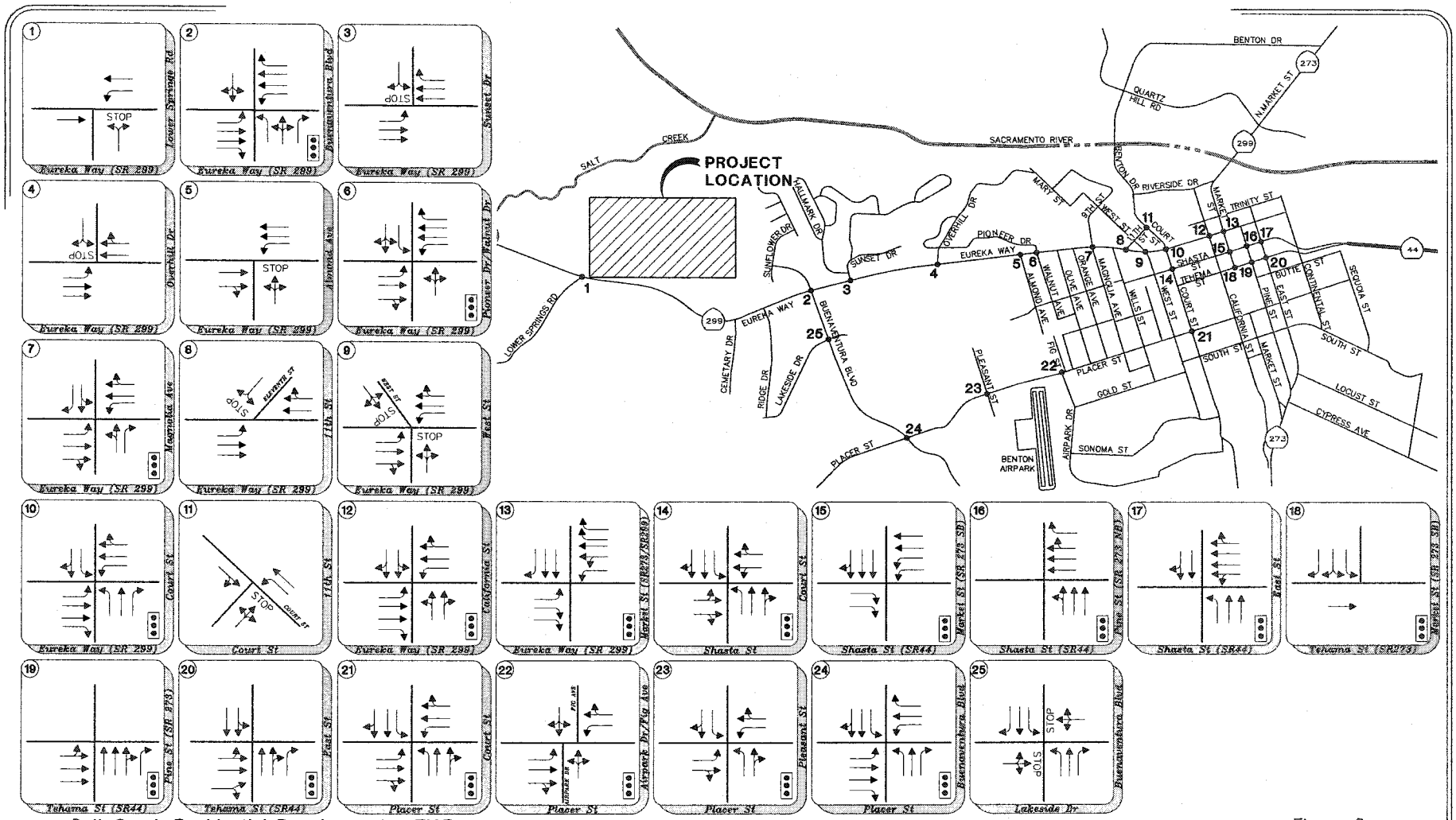
EXISTING BICYCLE FACILITIES

The City of Redding's Transportation Element contains the following policy regarding a City bicycle system:

> *Policy T9E - Require new development to provide bicycle facilities or pay in-lieu fees based on the fair share of that development's impacts on the bikeway system and needs identified on the Comprehensive Bikeway Plan.*

EXISTING TRANSIT SERVICE

Existing transit service is provided primarily by the Redding Area Bus Authority (RABA). RABA provides fixed route service, express route service and demand response service to the general public within the greater Redding Area. RABA operates 14 fixed routes within the Cities of Redding, Shasta Lake and Anderson, none of which operate in the immediate vicinity of the project site. Some of the RABA routes provide connectivity to many of the study intersections, predominantly in the downtown business district.



Salt Creek Residential Development - TIAR

Figure 2

Existing Intersection Lane Geometrics and Control

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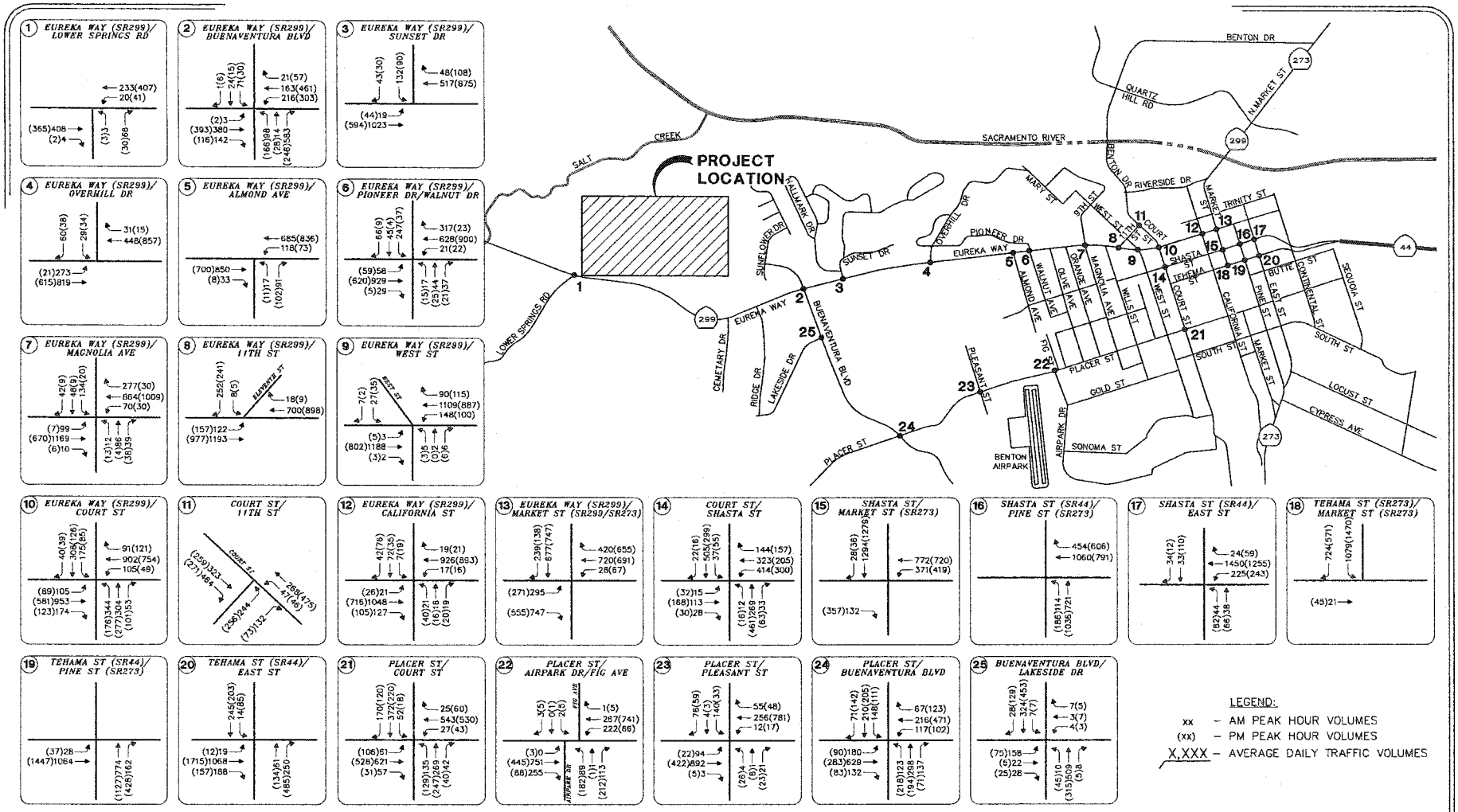

Salt Creek Residential Development - TIAR

Figure 3

Existing Intersection Traffic Volumes

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ANALYSIS METHODOLOGIES AND PARAMETERS

GENERAL PLAN CIRCULATION ELEMENT INFORMATION AND POLICIES

The City of Redding currently maintains its General Plan Transportation Element that is accessible via the following internet site: http://www.ci.redding.ca.us/devserv/planning/transptn.pdf. The Transportation Element contains the following information of particular interest to this study:

> *Policy T1A: Establish the following peak-hour LOS standards for transportation planning and project review. They reflect the special circumstances of various areas of the community:*
>
> - *Use LOS "C" – for most arterial streets and their intersections.*
> - *Use LOS "D" – for the Downtown area where vitality, activity, and pedestrian and transit use are primary goals.*
> - *Use LOS "D" – for streets within the State highway system and interchanges.*
> - *Use LOS "D" – for river-crossing street corridors whose capacity is affected by adjacent intersections.*
>
> *Policy T1B: Require development projects to construct both on and off-site improvements as necessary to mitigate the effects of increased traffic generated by the project and maintain peak-hour LOS standards established by Policy T1A. The traffic analysis used to establish mitigating measures shall be based on the City's Traffic Model or other City-approved method. Improvements may be deferred by the City upon approval of a Deferral Improvement Plan which identifies improvements needed, costs, funding sources, and other pertinent data required by the City.*
>
> *Definition of Expressway: Drivers also use expressways for regional trips. Other roads may traverse expressways at intersections with traffic signals, or they may have underpasses or overpasses. It is usually not possible to enter an expressway from an adjacent parcel of land. These 4 to 6-lane facilities require right-of-way generally between 110 feet and 150 feet in width.*
>
> *Definition of Arterial: Drivers use these streets to travel to activity centers, freeways, expressways, and other arterials and collectors. Driveways may connect adjacent land uses directly; collector streets conduct traffic to these arterials. Right-of-ways necessary to accommodate traffic projected for these 4 to 6-lane streets generally range from 84-135 feet in width.*
>
> *Definition of Collector: Drivers use these streets to travel within and between residential areas and neighborhood commercial areas. Access to adjacent land uses may be restricted in residential areas. These streets collect traffic from local streets and route it to arterials. Collector street right-of-ways range from 60 feet for 2-lane residential collectors to 125 feet for 4-lane facilities.*
>
> *Local Streets: Drivers travel on these streets only to reach adjacent land uses. Local streets serving residential areas are designed to protect residents from through traffic. Right-of-ways generally range from 28-60 feet in width.*
>
> *Policy T3A: Establish a system of street cross-sections that will:*
>
> - *Accommodate all improvements necessary to handle forecasted volumes at adopted LOS standards.*

- *Accommodate bicycles and transit facilities.*
- *Attain the design objectives for streets as addressed in the Community Development and Design Element.*

Policy T3B: Require streets to be dedicated and improved in accordance with adopted street standards; allow modifications to standard street sections when approved by the Planning Commission and City Engineer.

Policy T3C: Maximize intersection and driveway spacing on arterial and collector streets. Require shared/common driveways wherever feasible.

Policy T3D: Provide right-turn lanes for arterial-to-arterial and arterial-to-collector intersections wherever feasible.

Policy T3E: Pursue financing in a timely manner for all components of the transportation system to achieve and maintain adopted level of service standards.

Policy T3F: Assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system. Exceptions may be when new development generates significant public benefits (e.g., low-income housing, primary-wage-earner employment), and alternative sources of funding for the improvements can be obtained to offset foregone revenues.

Policy T4C: Work closely with Caltrans and the RTPA to ensure that State facilities which go through the City – including SR 299, SR 44, SR 273, I-5, and intersections/interchanges that involve those facilities – are maintained at an acceptable LOS as defined in this element.

Policy T8B: Incorporate facilities suitable for bicycle use in the design of interchanges, intersection, and other street-improvement/maintenance projects.

Policy T8G: Require new development to provide bicycle facilities or pay in-lieu fees based on the fair share of that development's impacts on the bikeway system and needs identified on the Comprehensive Bikeway Plan.

Appendix "B" states the following: The following streets will provide the basis framework for the City's expressway, arterial, and collector street systems. Unless otherwise indicated, the ultimate right-of-way should accommodate a minimum of 4-lanes as well as necessary turn pockets, center medians, and detached sidewalks. Variations in ultimate right-of-way width are expected due to circumstances such as proximity to existing development, slopes, bridge approaches, and other site-specific factors (only streets within the study area are listed below).

Arterial Streets: Eureka Way Buenaventura Blvd., Placer St.,
Expressway: State Route 273
Collectors: Lakeside Drive (*The ultimate configuration for collector streets within Appendix B is 2-lanes*)

LEVEL-OF-SERVICE METHODOLOGIES

Traffic operations will be quantified through the determination of "Level of Service" (LOS). Level-of-Service is a qualitative measure of traffic operating conditions, whereby a letter grade "A" through "F" is assigned to an intersection or roadway segment representing progressively worsening traffic conditions.

Levels-of-Service have been calculated for all intersection control types using the methods documented in the Transportation Research Board Publication *Highway Capacity Manual, Fourth Edition, 2000.* For signalized intersections and all-way-stop-controlled (AWSC) intersections, the intersection delays and Levels-of-Service are average values for all intersection movements. For two-way-stop-controlled (TWSC) intersections, the intersection delays and Levels-of-Service are representative of those for the worst-case movement.

Level-of-Service criteria for different types of intersection control is outlined in **Table 1.** The LOS definitions shown in this table are used in the traffic study.

CALTRANS TRAFFIC IMPACT STUDY GUIDELINES

The Caltrans published *Guide for the Preparation of Traffic Impact Studies* (dated December 2002) states the following:

> *Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not be always feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.*

LOS THRESHOLD

As described above, the City of Redding uses LOS C for the City streets in the study area and LOS D for the for streets within the state highway system and interchanges.

Thus, a peak-hour LOS C is taken as the general threshold for acceptable/tolerable operations at the City Street study intersections and LOS D state highway SR 273, SR 299, and SR 44 study intersections and roadways. Improvements and mitigation measures are recommended for all instances where these LOS standards are not met.

TABLE 1
LEVEL-OF-SERVICE CRITERIA
FOR INTERSECTIONS

Level of Service	Type of Flow	Delay	Maneuverability	Stopped Delay/Vehicle (sec)		
				Signalized	Unsignalized	All-Way Stop
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10.0	≤ 10.0	≤ 10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	>10 and ≤ 20.0	>10 and ≤ 15.0	>10 and ≤ 15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted	>20 and ≤ 35.0	>15 and ≤ 25.0	>15 and ≤ 25.0
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	>35 and ≤ 55.0	>25 and ≤ 35.0	>25 and ≤ 35.0
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	>55 and ≤ 80.0	>35 and ≤ 50.0	>35 and ≤ 50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	> 80.0	> 50.0	> 50.0

References: Highway Capacity Manual 2000

MITIGATION THRESHOLD

Roadways/Signalized Intersections: The project is considered to have a significant effect if it would:

- Result in a roadway or signalized intersection currently operating at an acceptable LOS to deteriorate to an unacceptable LOS: or
- Increase the delay by more than 5 seconds at a signalized intersection that is/will operate at an unacceptable LOS without the project, or
- Increases the V/C ratio by more than 0.05 at a roadway segment that is/will operate at an unacceptable LOS without the project.

Unsignalized Intersections: The project is considered to have a significant effect if it would:

- Result in an unsignalized intersection movement/approach currently operating at an acceptable LOS to deteriorate to an unacceptable LOS, and also cause the intersection to meet the peak-hour signal warrant: or
- For an unsignalized intersection that meets the peak-hour signal warrant, increase the delay by more than 5 seconds at a movement/approach that is operating at an unacceptable LOS without the project.

TRAFFIC SIGNAL WARRANT ANALYSIS CRITERIA

To determine whether "significance" should be associated with unsignalized intersection operations, a supplemental traffic signal "warrant" analysis was also completed. The term "signal warrants" refers to the list of established criteria used by public agencies to quantitatively justify or ascertain the need for installation of a traffic signal at an otherwise unsignalized intersection location. This study will employ the signal warrant criteria presented in the latest edition of the California *Manual on Uniform Traffic Control Devices (MUTCD)* for all study intersections. The signal warrant criteria are based upon several factors including volume of vehicular and pedestrian traffic, frequency of accidents, location of school areas etc. The MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. Specifically, this study will utilize the Peak-Hour-Volume based Warrant 3 as one representative type of traffic signal warrant analysis.

It should be noted that the Peak-Hour-Volume Warrant was only applied when the intersection was found to be operating at unacceptable LOS. Therefore, there may be instances when the unsignalized intersection operates at acceptable LOS conditions or better but still meets the Peak-Hour-Volume Warrant.

TECHNICAL ANALYSIS PARAMETERS

Intersections

The traffic study would generally provide a "preliminary operational level" evaluation of traffic operating conditions. The evaluation, will however, incorporate appropriate heavy vehicle adjustment factors, peak-hour factors, and signal lost-time factors, etc. The *Synchro 6.0* (Trafficware) integrated computer software program will be used to implement the HCM-2000 analysis methodologies at intersections. For closely spaced intersections (example intersection #9, intersection #10, and intersection #11), the Synchro evaluation will consider stacking length requirements and coordinated signal operations.

The specific technical analysis parameters that will be used for this study are presented in **Table 2**.

TABLE 2
INTERSECTION TECHNICAL ANALYSIS PARAMETERS

Technical Parameters (1)	All intersections
Grade	Level
% Trucks	2%[4]
Minimum Signal Cycle Length[2]	80 sec
Lost Time Per Critical Signal Phase	4 sec
Left-Turn Critical Lane Volume[3] – Existing & Year 2015 Conditions	1,710 vph
Left-Turn Critical Lane Volume[3] – Future Conditions	1,900 vph
Pedestrian Calls Per Hour	5

Notes: 1. Computer software defaults will be used for parameters not listed
2. Signal timings as obtained from Caltrans will be used for selected intersections
3. Will be optimized as appropriate
4. 3% trucks were used at some locations based on actual counts.

A "design level" evaluation (including queuing on intersection lane groups, stacking length requirements, coordinated signal operations analyses, etc.) is not included in this planning-level study. However, the analysis provides some qualitative and quantitative discussions regarding queuing, stacking length requirements, etc. within descriptions of mitigation and recommended improvements.

EXISTING TRAFFIC OPERATIONS

Existing conditions were simulated by using existing intersection and roadway traffic volumes.

INTERSECTIONS

Existing peak-hour intersection traffic operations were analyzed utilizing existing traffic volumes, shown on Figure 3 and existing intersection lane geometrics and control, shown on Figure 2. **Table 3A** provides a summary of the *Existing* peak-hour intersection Levels-of-Service.

TABLE 3A
EXISTING CONDITIONS: INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control Type	Target LOS	AM Peak Hour			PM Peak Hour		
				Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?
1	Eureka Way (SR 299)/Lower Springs Rd.	TWSC	D	12.1	B	-	11.7	B	-
2	Eureka Way (SR 299)/Buenaventura Blvd.	Signal	D	20.2	C	-	20.3	C	-
3	**Eureka Way(SR 299)/Sunset Dr.**	**TWSC**	**D**	**75.5**	**F**	**Yes**	**95.0**	**F**	**Yes**
4	Eureka Way (SR 299)/Overhill Dr.	TWSC	D	19.4	C	-	18.2	C	-
5	Eureka Way (SR 299)/Almond Ave.	TWSC	D	17.1	C	-	13.9	B	-
6	Eureka Way (SR 299)/Walnut Ave./Pioneer Dr.	Signal	D	17.7	B	-	11.3	B	-
7	Eureka Way (SR 299)/Magnolia Ave.	Signal	D	24.9	C	-	9.5	A	-
8	Eureka Way (SR 299)/11th St.	TWSC	D	17.9	C	-	21.0	C	-
9	**Eureka Way (SR 299)/West St.**	**TWSC**	**D**	**287.1**	**F**	**No**	**71.4**	**F**	**No**
10	**Eureka Way (SR 299)/Court St.**	**Signal**	**D**	**272.2**	**F**	**-**	**92.6**	**F**	**-**
11	**Court St./11th St.**	**TWSC**	**C**	**509.2**	**F**	**Yes**	**293.4**	**F**	**Yes**
12	Eureka Way (SR 299)/California St.	Signal	D	15.0	B	-	15.1	B	-
13	Eureka Way (SR 299)/Market St.(SR 273/SR 299)	Signal	D	28.5	C	-	27.7	C	-
14	Shasta St./Court St.	Signal	C	31.2	C	-	27.4	C	-
15	Shasta St./Market St.(SR 273)	Signal	D	26.0	C	-	26.0	C	-
16	Shasta St. (SR 44)/Pine St. (SR 273)	Signal	D	18.8	B	-	21.9	C	-
17	Shasta St. (SR 44)/East St.	Signal	D	8.5	A	-	14.8	B	-
18	Tehama St. (SR 273)/Market St. (SR 273)	Signal	D	1.2	A	-	2.6	A	-
19	Tehama St. (SR 44)/Pine St. (SR 273)	Signal	D	10.0	A	-	17.9	B	-
20	Tehama St. (SR 44)/East St. (SR 273)	Signal	D	19.6	B	-	28.5	C	-
21	Placer St./Court St.	Signal	C	27.1	C	-	26.7	C	-
22	Placer St./Airpark Dr./Fig Ave.	Signal	C	24.0	C	-	29.2	C	-
23	Placer St./Pleasant St.	Signal	C	26.0	C	-	24.1	C	-
24	Placer St./Buenaventura Blvd.	Signal	C	26.7	C	-	29.2	C	-
25	**Buenaventura Blvd./Lakeside Dr.**	**TWSC**	**C**	**79.6**	**F**	**No**	**31.1**	**D**	**No**

Notes:
TWSC = Two Way Stop Control
LOS = worst case movement's LOS for TWSC intersections
Warrant = MUTCD Peak hour volume based signal warrant

As shown in Table 3A, the following study intersections are projected to operate at unacceptable LOS.

- Intersection #3) Eureka Way (SR 299)/Sunset Dr.
- Intersection #9) SR 299/West St.
- Intersection #10) SR 299/Court St.
- Intersection #11) Court St./11th St.
- Intersection #25) Buenaventura Blvd./Lakeside Dr.

All improvement recommendations are discussed in the recommendation section of this report.

ROADWAY SEGMENTS

Existing daily traffic operations along roadway segments were analyzed by evaluating arterial segment operations along the Eureka Way (SR 299) corridor. **Table 3B** contains a summary of the *Existing* roadway segment LOS conditions.

TABLE 3B
EXISTING CONDITIONS: ROADWAY LEVELS-OF-SERVICE

Roadway Segment - Eastbound Direction	Target LOS	Capacity Configuration	Arterial Class	Free Flow Speed (mph)	AM peak hour		PM peak hour	
					Arterial Speed (mph)	LOS	Arterial Speed (mph)	LOS
SR 299 - Lower Springs Rd. to Buenaventura Blvd.	D	Two to Four Lane Arterial	II	50	37.6	A	37.5	A
SR 299 - Buenaventura Blvd. to Court St.	D	Four-Lane Divided Arterial	II	35 to 45	30.1	B	33.5	B
Roadway Segment - Westbound Direction	**Target LOS**	**Capacity Configuration**	**Arterial Class**	**Free Flow Speed (mph)**	**AM peak hour**		**PM peak hour**	
					Arterial Speed (mph)	**LOS**	**Arterial Speed (mph)**	**LOS**
SR 299 - Lower Springs Rd. to Buenaventura Blvd.	D	Two to Four Lane Arterial	II	50	48.4	A	47.6	A
SR 299 - Buenaventura Blvd. to Court St.	D	Four-Lane Divided Arterial	II	35 to 45	31.9	B	34.2	B

Note
1) Analysis conducted for 2-lane, 3-lane, and 4-lane segments per existing configuration.

As shown in Table 3B, on a corridor basis, SR 299 between Lower Springs Rd. and Court St. is operating at acceptable LOS.

SHORT TERM CONDITIONS

Short Term conditions refer to analysis scenarios which will exist following the assumed completion of approved/pending study area developments, and thus are typically a few years in the future from *Existing* conditions. Within this traffic study, *Short Term* conditions will be assumed to be approximately around Year 2015. *Short Term* conditions assume that some programmed or planned improvements might be completed, including potentially some project related improvements. The *Short Term No Project* condition investigates traffic operations following completion of approved and pending projects, but excluding development of the proposed project. The *Short Term Plus Project* condition is the analysis scenario in which traffic impacts associated with the proposed project (i.e., the Salt Creek Heights) are investigated in comparison to the *Short Term No Project* condition scenario.

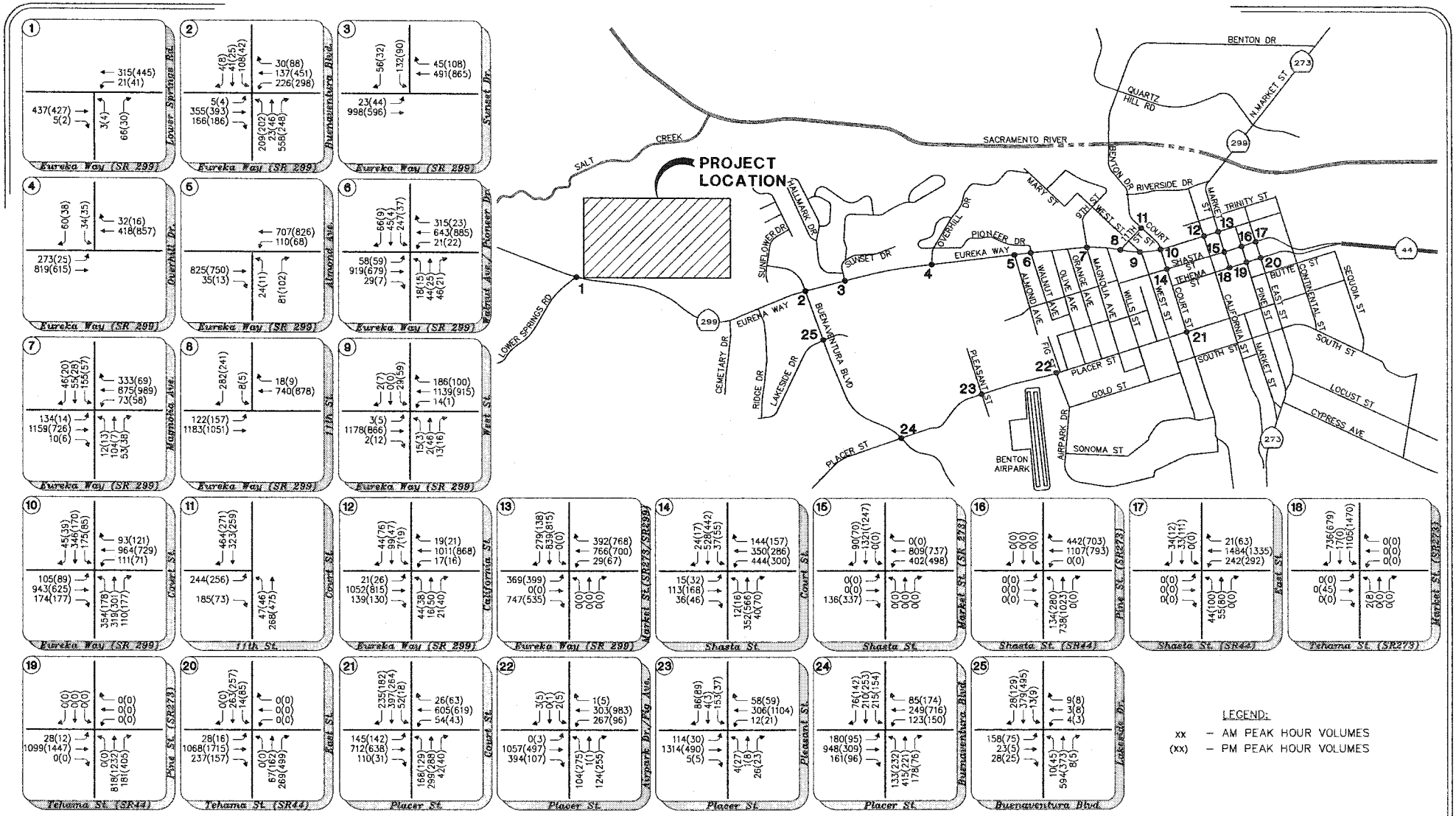
APPROVED/PENDING PROJECTS

The City of Redding staff has provided a list of land development projects within the vicinity of the proposed project that could be regarded as "approved" or "pending approval" for construction in the near-term and are referred to as "short term" projects. These projects include, amongst others, the Shasta Health Science Center, and the Westridge Master Plan.

The Westridge Master Plan is located in the westernmost portion of the City of Redding within approximately ±400 acres of vacant land bounded by a short section of Placer Street at the extreme northwest corner of the site, and by a few hundred feet of Power Line Rd. at the southwest corner of the site. The project is expected to include 296 single-family unit residential subdivisions.

The Shasta County Regional Travel Demand Forecast (SCRTDF) Model was checked and updated as necessary to account for trips from all approved/pending development. Trip generation estimates and trip distribution patterns for these two approved/pending projects were as assigned by the SCRTDF Model. It is noted that there is a shift in traffic distribution patterns following improvements to Placer Street, as a result of which *Short Term No Project* volumes at some locations on Eureka Way might be lesser than existing traffic volumes.

Short Term No Project peak-hour traffic conditions were simulated by superimposing new trips generated by the approved/pending projects over *Existing* base traffic volumes at the study intersections, as discussed previously. The resulting *Short Term (Year 2015) No Project* intersection and roadway traffic volumes are shown on **Figure 4**.



Salt Creek Residential Development - TIAR

Figure 4

Short Term (Year 2015) No Project Intersection Traffic Volumes

SHORT TERM NO PROJECT TRAFFIC OPERATIONS

INTERSECTIONS

Short Term No Project intersection operations were quantified utilizing existing lane geometrics and control (shown on Figure 2) and the *Short Term No Project* traffic volumes (shown on Figure 4). **Table 4A** provides a summary of the resulting intersection Levels-of-Service.

TABLE 4A
SHORT TERM NO PROJECT: INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control Type	Target LOS	AM Peak Hour			PM Peak Hour		
				Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?
1	Eureka Way (SR 299)/Lower Springs Rd.	TWSC	D	12.5	B	No	12.8	B	No
2	Eureka Way (SR 299)/Buenaventura Blvd.	Signal	D	23.7	C	-	21.7	C	-
3	**Eureka Way(SR 299)/Sunset Dr.**	**TWSC**	**D**	**67.7**	**F**	**Yes**	**91.5**	**F**	**Yes**
4	Eureka Way (SR 299)/Overhill Dr.	TWSC	D	20.4	C	No	18.4	C	No
5	Eureka Way (SR 299)/Almond Ave.	TWSC	D	18.0	C	No	14.4	B	No
6	Eureka Way (SR 299)/Walnut Ave./Pioneer Dr.	Signal	D	18.8	B	-	11.3	B	-
7	Eureka Way (SR 299)/Magnolia Ave.	Signal	D	31.5	C	-	13.9	B	-
8	Eureka Way (SR 299)/11th St.	TWSC	D	20.4	C	-	20.5	C	-
9	**Eureka Way (SR 299)/West St.**	**TWSC**	**D**	**414.4**	**F**	**No**	**332.2**	**F**	**No**
10	**Eureka Way (SR 299)/Court St.**	**Signal**	**D**	**276.4**	**F**	**-**	**89.5**	**F**	**-**
11	**Court St./11th St.**	**TWSC**	**C**	**265.0**	**F**	**Yes**	**201.4**	**F**	**Yes**
12	Eureka Way (SR 299)/California St.	Signal	D	15.7	B	-	16.4	B	-
13	Eureka Way (SR 299)/Market St.(SR 273/SR 299)	Signal	D	48.4	D	-	51.8	D	-
14	Shasta St./Court St.	Signal	C	33.9	C	-	29.1	C	-
15	Shasta St./Market St.(SR 273)	Signal	D	26.4	C	-	26.1	C	-
16	Shasta St. (SR 44)/Pine St. (SR 273)	Signal	D	19.1	B	-	22.9	C	-
17	Shasta St. (SR 44)/East St.	Signal	D	10.6	B	-	19.6	B	-
18	Tehama St. (SR 273)/Market St. (SR 273)	Signal	D	4.8	A	-	2.6	A	-
19	Tehama St. (SR 44)/Pine St. (SR 273)	Signal	D	10.9	B	-	15.1	B	-
20	Tehama St. (SR 44)/East St. (SR 273)	Signal	D	19.8	B	-	28.9	C	-
21	Placer St./Court St.	Signal	C	33.9	C	-	29.5	C	-
22	**Placer St./Airpark Dr./Fig Ave.**	**Signal**	**C**	**46.3**	**D**	**-**	**74.9**	**E**	**-**
23	**Placer St./Pleasant St.**	**Signal**	**C**	**63.3**	**E**	**-**	26.9	C	**-**
24	**Placer St./Buenaventura Blvd.**	**Signal**	**C**	**45.5**	**D**	**-**	**45.3**	**D**	**-**
25	**Buenaventura Blvd./Lakeside Dr.**	**TWSC**	**C**	**172.4**	**F**	**No**	**41.8**	**E**	**No**

Notes:
TWSC = Two Way Stop Control
LOS = worst case movement's LOS for TWSC intersections
Warrant = MUTCD Peak hour volume based signal warrant

As shown in Table 4A, the following intersections are projected to operate at unacceptable LOS for *Short Term No Project* conditions:

- Intersection #3) Eureka Way (SR 299)/Sunset Dr.
- Intersection #9) SR 299/West St.
- Intersection #10) SR 299/Court St.
- Intersection #11) Court St./11th St.
- Intersection #22) Placer St./Airpark Dr. (Fig Ave.)
- Intersection #23) Placer St./Pleasant St.
- Intersection #24) Placer St./Buenaventura Blvd.
- Intersection #25) Buenaventura Blvd./Lakeside Dr.

Mitigations are discussed in a subsequent section of this report.

ROADWAY SEGMENTS

Short Term No Project daily traffic operations along roadway segments were analyzed by evaluating arterial segment operations along the Eureka Way (SR 299) corridor. **Table 4B** contains a summary of the *Short Term No Project* roadway segment LOS conditions.

TABLE 4B
SHORT TERM NO PROJECT: ROADWAY LEVELS-OF-SERVICE

Roadway Segment - Eastbound Direction	Target LOS	Capacity Configuration	Arterial Class	Free Flow Speed (mph)	AM peak hour		PM peak hour	
					Arterial Speed (mph)	LOS	Arterial Speed (mph)	LOS
SR 299 - Lower Springs Rd. to Buenaventura Blvd.	D	Two to Four Lane Arterial	II	50	36.5	A	37.6	A
SR 299 - Buenaventura Blvd. to Court St.	D	Four-Lane Divided Arterial	II	35 to 45	32.3	B	32.7	B
Roadway Segment - Westbound Direction	**Target LOS**	**Capacity Configuration**	**Arterial Class**	**Free Flow Speed (mph)**	**AM peak hour**		**PM peak hour**	
					Arterial Speed (mph)	**LOS**	**Arterial Speed (mph)**	**LOS**
SR 299 - Lower Springs Rd. to Buenaventura Blvd.	D	Two to Four Lane Arterial	II	50	48.1	A	46.5	A
SR 299 - Buenaventura Blvd. to Court St.	D	Four-Lane Divided Arterial	II	35 to 45	30.8	B	33.7	B

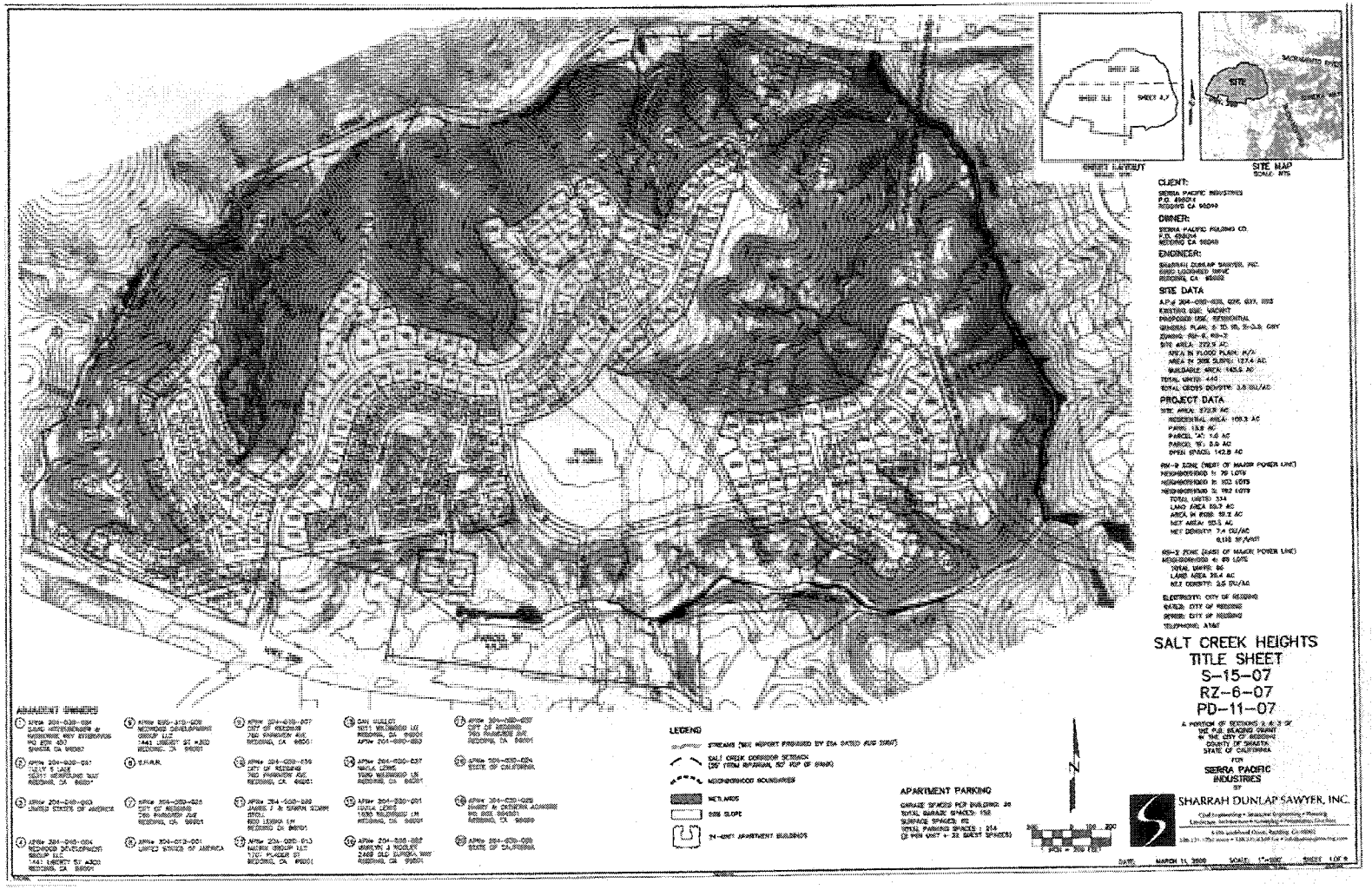
Note
1) Analysis conducted for 2-lane, 3-lane, and 4-lane segments per existing configuration.

As shown in Table 4B, on a corridor basis, SR 299 between Lower Springs Rd. and Court St. is projected to operate at acceptable LOS.

PROPOSED PROJECT

PROJECT DESCRIPTION

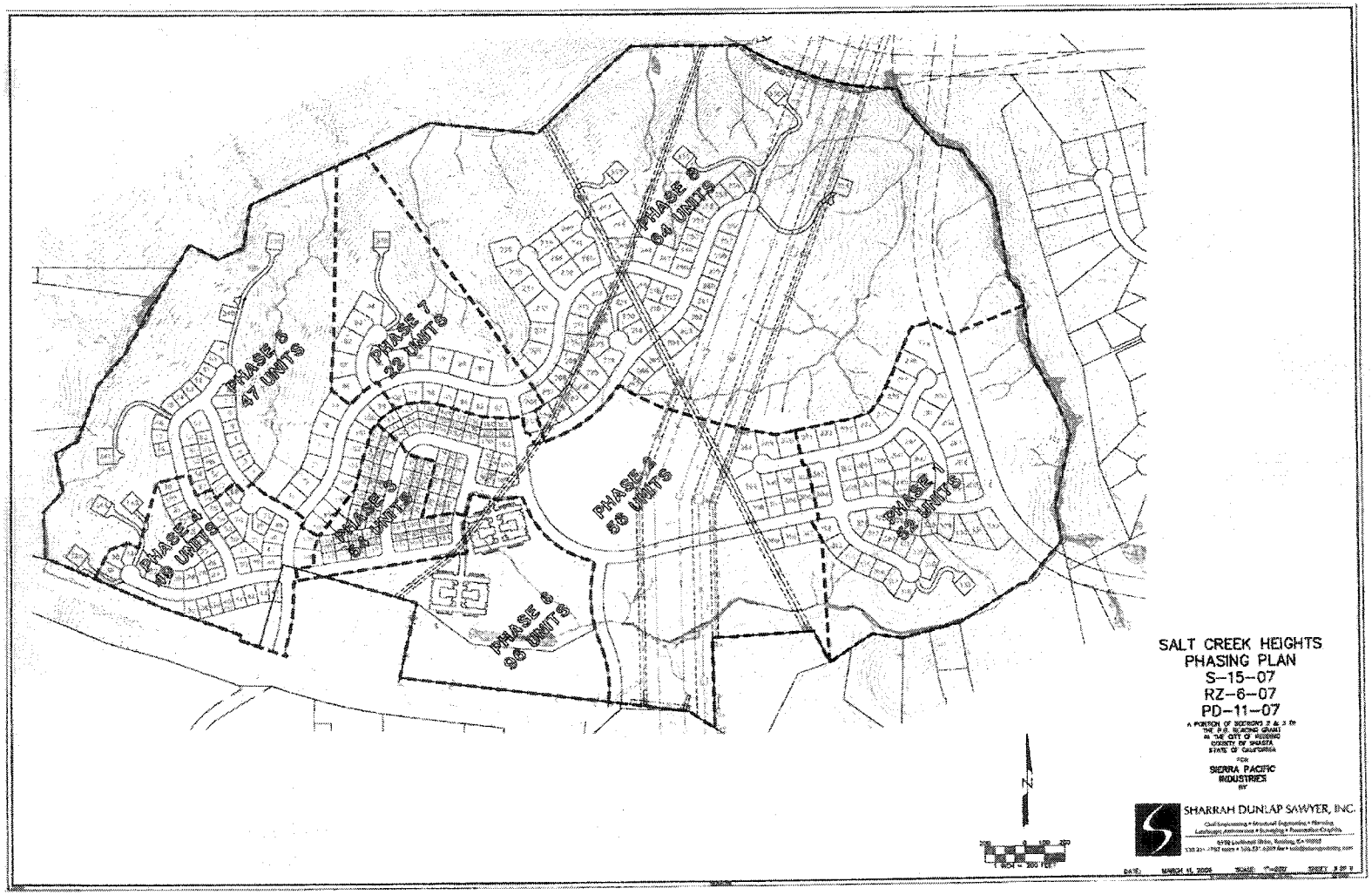
The proposed Salt Creek Heights project site is located along the north side of Eureka Way (SR 299) at the western City limits of the City of Redding, in Shasta County. The project's tentative subdivision layout is shown in **Figure 5A and 5B**.



Salt Creek Residential Development - TIAR

Figure 5A

Project Site Plan



Salt Creek Residential Development - TIAR

Figure 5B

Project Site Plan

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Job No: 45-6550-02

Per the City of Redding General Plan Map (http://www.ci.redding.ca.us/devserv/pdfs/generalplan.pdf), the proposed project is located on parcels that are currently designated as Residential (2 to 3.5 units per acre) and "Greenway". A review of the proposed project's site plan shows that, on build-out, the Salt Creeks residential project site would include residential units as categorized below:

- 13 acre park
- Phase 1 – 52 units
- Phase 2 – 56 units
- Phase 3 – 54 units
- Phase 4 – 49 units
- Phase 5 – 47 units
- Phase 6 – 96 units all of which are multi-family units
- Phase 7 – 22 units
- Phase 8 – 64 units

TOTAL – 440 units comprising 344 single family units and 96 multi-family units

For the purposes of this study, short term and cumulative project development assumptions were made in consultation with the project applicant. short term development of the project will include Phases 1 through 5 as outlined above, and is expected be completed by Year 2015 (assumed as the time year of analysis for Short Term conditions). Thus short term development of the project will include 257 single-family units and 24 multi-family units. The park will also be assumed to be completely laid out and fully functional under *Year 2015 Plus Project* conditions.

Cumulative development of the project will include Phases 6, 7, and 8 as outlined above and will be completed by Year 2030 (assumed as the time year of analysis for Cumulative conditions). Following completion of Cumulative development (i.e. full build-out), the Salt Creek Heights residential project is expected to include approximately 440 residential units: 344 single-family units and 96 multi-family units.

In adopting a conservative approach and to account for future changes in design layouts and revisions to the site plan, this traffic study will assume that complete build-out of the Salt Creek Heights project would include approximately 500 units i.e. 350 single family units and 150 multi-family units.

PROJECT TRIP GENERATION

Project trip generation has been estimated utilizing trip generation rates contained in the Institute of Transportation Engineers (ITE) Publication *Trip Generation (Seventh Edition)*. **Table 5A and Table 5B** show the Short Term and Cumulative Trip Generation estimates from the proposed project. An internal trip reduction (match) of 3% was used for trip generation estimates for residential uses, while an internal trip reduction of 50% was applied to raw trips generated from the park. These internal trip reduction percentages were established in consultation with the City of Redding, and are applied to the unadjusted trips being generated from single-family units alone.

The draft TIAR was based upon earlier versions of the tentative map that had the same total unit count and the same mix of single-family dwelling units in phases 1-5 with all multi-family units in phase 6. Since single family dwelling units have higher trip generation than multi-family units, the trip generation in Table 5A, and Table 5B was not updated for the March 11, 2009 tentative map, thus resulting in a conservative analysis for *Short Term Plus Project* conditions.

TABLE 5A
SHORT TERM CONDITIONS - PROJECT TRIP GENERATION

ITE Land Use Category (ITE Code)	Unit	Weekday Daily Trip	Weekday AM Peak Rate/Unit			Weekday PM Peak Rate/Unit		
		Rate/Unit	Total	In	Out	Total	In	Out
Single-Family Detached Housing (210)	per d.u.	9.64	0.74	25%	75%	0.98	63%	37%
Residential Condominium/Townhouse (230)	per d.u.	7.96	0.67	17%	83%	0.79	67%	33%
Park	per acre	50.00	2.00	80%	20%	4.00	41%	59%
Land Use Description	**Quantity**	**Weekday Daily Trips**	**Weekday AM Peak Hour Trips**			**Weekday PM Peak Hour Trips**		
			Total	In	Out	Total	In	Out
Salt Creek - Single Family Homes	257	2,478	189	47	142	251	158	93
Salt Creek - Multi-Family Units	24	191	16	3	13	19	13	6
Total Unadjusted Trips		2,669	205	50	155	270	171	99
Internal Trip Reduction between housing types	3%	-74	-6	-1	-5	-8	-5	-3
RESIDENTIAL PORTION - TOTAL		*2,595*	*199*	*49*	*150*	*262*	*166*	*96*
Park	13.0	650	26	21	5	52	21	31
Internal Trip Reduction for parks	50%	-325	-13	-11	-2	-26	-11	-15
PARK - TOTAL		*325*	*13*	*10*	*3*	*26*	*10*	*16*
NETT NEW PROJECT TRIPS		**2,920**	**212**	**59**	**153**	**288**	**176**	**112**

Notes
1) Trip Generation rates based on equations as outlined in the ITE Trip Gen Manual 7th edition
2) Internal Trip reduction is expressed as a percentage of the trip generation from Single Family homes

As shown in Table 5A, in the short term, the proposed Salt Creek Heights development project is projected to generate 2,920 weekday daily trips, 212 of which would occur during the AM peak-hour, and 288 of which would occur during the PM peak-hour.

TABLE 5B
YEAR 2030 CONDITIONS: PROJECT TRIP GENERATION

ITE Land Use Category (ITE Code)	Unit	Weekday Daily Trip	Weekday AM Peak Rate/Unit			Weekday PM Peak Rate/Unit		
		Rate/Unit	Total	In	Out	Total	In	Out
Single-Family Detached Housing (210)	per d.u.	9.41	0.73	25%	75%	0.95	63%	37%
Residential Condominium/Townhouse (230)	per d.u.	6.04	0.47	17%	83%	0.56	67%	33%
Park	per acre	50.00	2.00	80%	20%	4.00	41%	59%
Land Use Description	**Quantity**	**Weekday Daily Trips**	**Weekday AM Peak Hour Trips**			**Weekday PM Peak Hour Trips**		
			Total	In	Out	Total	In	Out
Salt Creek - Single Family Homes	350	3,292	254	64	190	331	209	122
Salt Creek - Multi-Family Units	150	906	71	12	59	84	56	28
Total Unadjusted Trips		4,198	325	76	249	415	265	150
Internal Trip Reduction between housing types	3%	-99	-8	-2	-6	-10	-6	-4
RESIDENTIAL PORTION - TOTAL		*4,099*	*317*	*74*	*243*	*405*	*259*	*146*
Park	13.0	650	26	21	5	52	21	31
Internal Trip Reduction for parks	50%	-325	-13	-11	-2	-26	-11	-15
PARK - TOTAL		*325*	*13*	*10*	*3*	*26*	*10*	*16*
NETT NEW PROJECT TRIPS		**4,424**	**330**	**84**	**246**	**431**	**269**	**162**

Notes
1) Trip Generation rates based on equations as outlined in the ITE Trip Gen Manual 7th edition
2) Internal Trip reduction is expressed as a percentage of the trip generation from Single Family homes

As shown in Table 5B, complete build-out of the proposed Salt Creek Heights development project is expected to generate a total of 4,424 weekday daily trips, 330 of which would occur during the AM peak-

hour, and 431 of which would occur during the PM peak-hour.

PROJECT SPECIFIC IMPROVEMENTS & SITE ACCESS

Project Specific Improvements

As part of specific improvements associated with the Salt Creek Heights development, the project applicant is required to develop and construct the northern extension of Buenaventura Blvd. beyond its current terminus with Sunflower Drive. This northern extension will be a two-lane undivided facility, which also provides the project with an access approach (intersection #27). Details on this access location and other access approaches are provided below.

Project Site Access

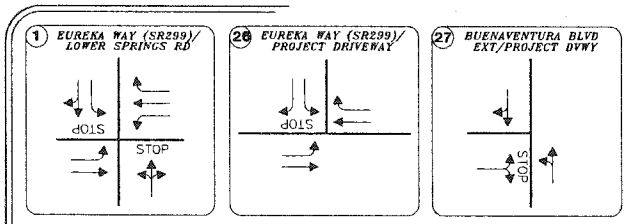
As illustrated on the tentative Site Plan (Figure 5A and 5B), access to the proposed project site will be provided by three driveways, two of which are on Eureka Way (SR 299), and one of which is on the future extension of Buenaventura Blvd. (described below). These project access locations are listed below:

- The first project access location is on SR 299, and located at the intersection of Eureka Way (SR 299) and Lower Springs Road. An internal road, labeled Road A will provide access from this location to the project site. The project applicant is required to complete the following improvements:
    - Improve the eastbound and westbound approaches to include one exclusive left-turn lane and one through lane. Additionally, the westbound approach will be improved with a dedicated right-turn lane.
    - Construct the southbound approach (exiting the project site) to include one exclusive left-turn lane, and one shared through right-turn lane. It is noted that geometrics on this approach might be subject to revision following any mitigations and/or traffic circulation recommendations from this study.

- The second project access approach will be provided by a driveway location (labeled intersection #26) approximately 2,375 feet east of the SR 299/Lower Springs Rd. As shown on the site plan, an internal road labeled Road B will provide connectivity from this access location to the project site. The project applicant is responsible for the following improvements at this driveway:
    - Improve the eastbound approach to include one exclusive left-turn lane, and one through lane.
    - Improve the westbound approach to include one through lane, and one exclusive right-turn lane.
    - Construct the southbound approach (exiting the project site) to include one exclusive left-turn lane, and one exclusive right-turn lane. It is noted that geometrics on this approach might be subject to revision following any mitigations and/or traffic circulation recommendations from this study.

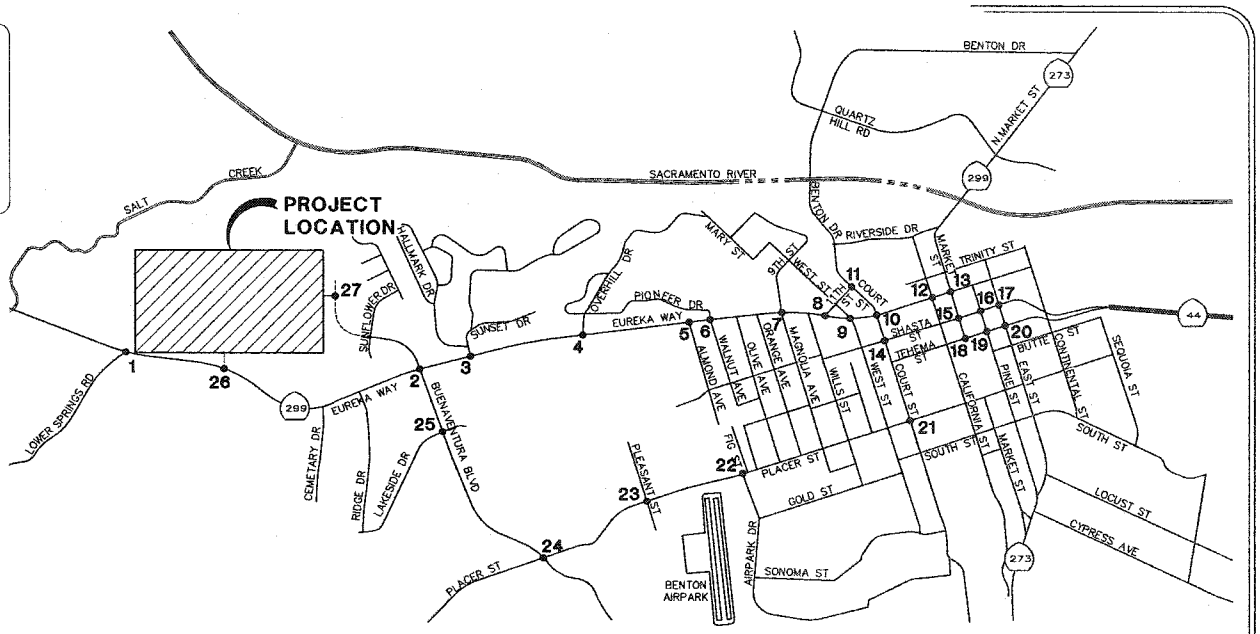
- The third project access approach (labeled intersection #27) will be provided from the future extension of Buenaventura Blvd., and will predominantly serve the eastern portion of the project site via an internal road labeled Road O. It is assumed the eastbound approach at this driveway will be constructed to include on shared left-right lane.

Within this traffic study, all project access locations will be assumed as full access approaches, with stop control along the minor approaches. Lane geometrics and control for three (3) project access locations are shown on **Figure 6**. Mitigations and recommendations will be provided for all project access locations that are projected to operate unacceptably.



NOTE: 1. Project developer is resposible for providing appropriate intersection approach improvements at all project access locations.

2. Lane geometrics and control at all other intersections are similar to existing conditions.



Salt Creek Residential Development - TIAR

Figure 6

Short Term Plus Project (Year 2015) Intersection Lane Geometrics and Control

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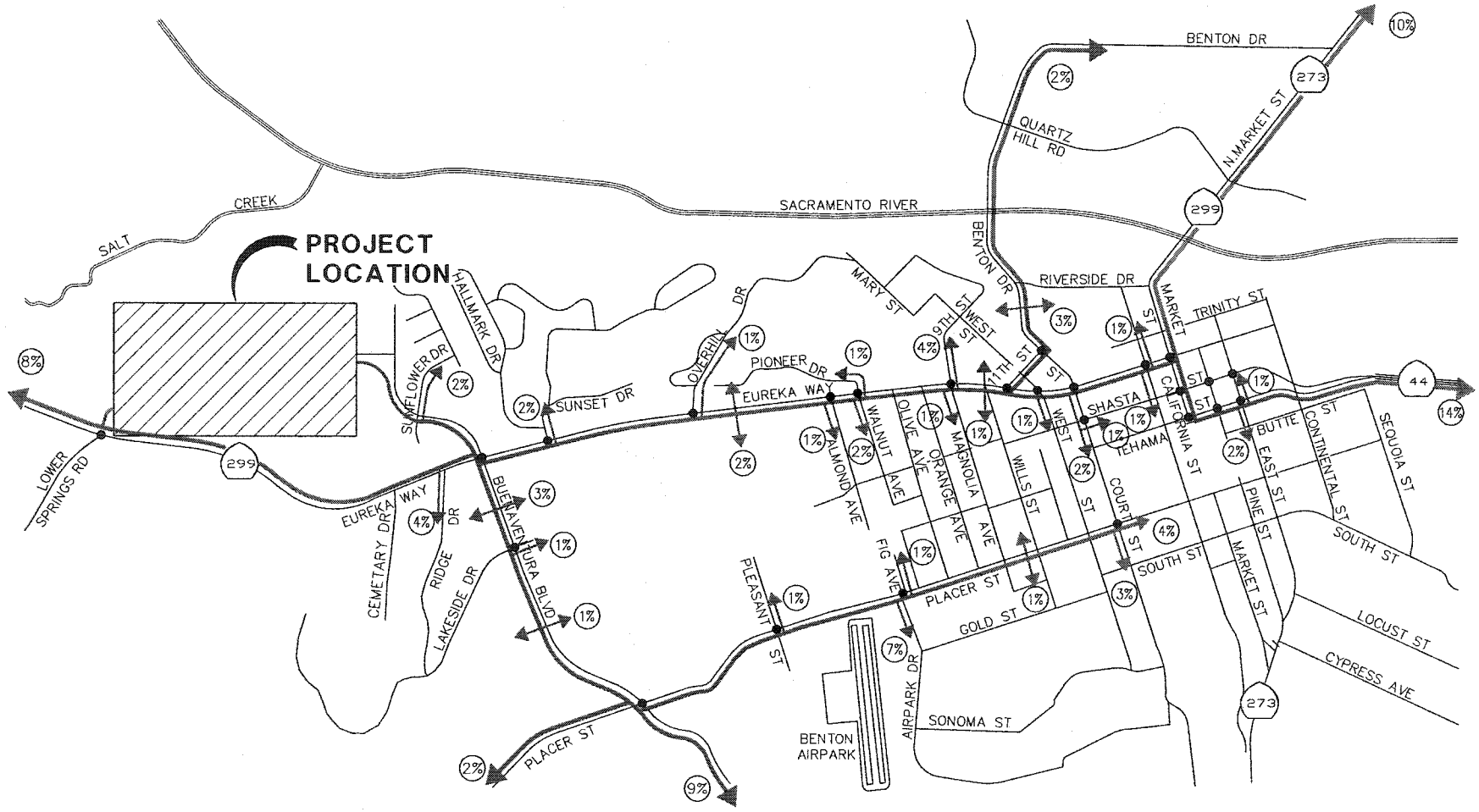
PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

The directional trip distribution and assignment of project-generated trips was derived based on traffic flow patterns shown in the SCRTDF model. **Figure 7** depicts the directional trip distribution for the proposed project.

Short Term conditions 'Project Only' traffic volumes were derived by distributing the Short Term project generated trips according to the distribution patterns illustrated above. Cumulative conditions "Project-Only" traffic volumes were derived by distributing the Year 2030 project generated trips according to the distribution patterns outlined previously.

Figure 8A illustrates the Short Term Conditions 'Project Only' traffic volumes. **Figure 8B** illustrates the Year 2030 'Project Only' traffic volumes.

Short Term Plus Project conditions were simulated by superimposing traffic generated by the proposed project onto *Short Term No Project* intersection and roadway traffic volumes. The resulting *Short Term Plus Project* intersection traffic volumes and roadway traffic volumes are illustrated on **Figure 9**.



NOTE: Outbound trip distribution patterns are shown. Inbound trip distribution will be similar with slight variations at SR 44, due to the one-way couplet.

Salt Creek Residential Development TIAR

Figure 7

Project Trip Distribution

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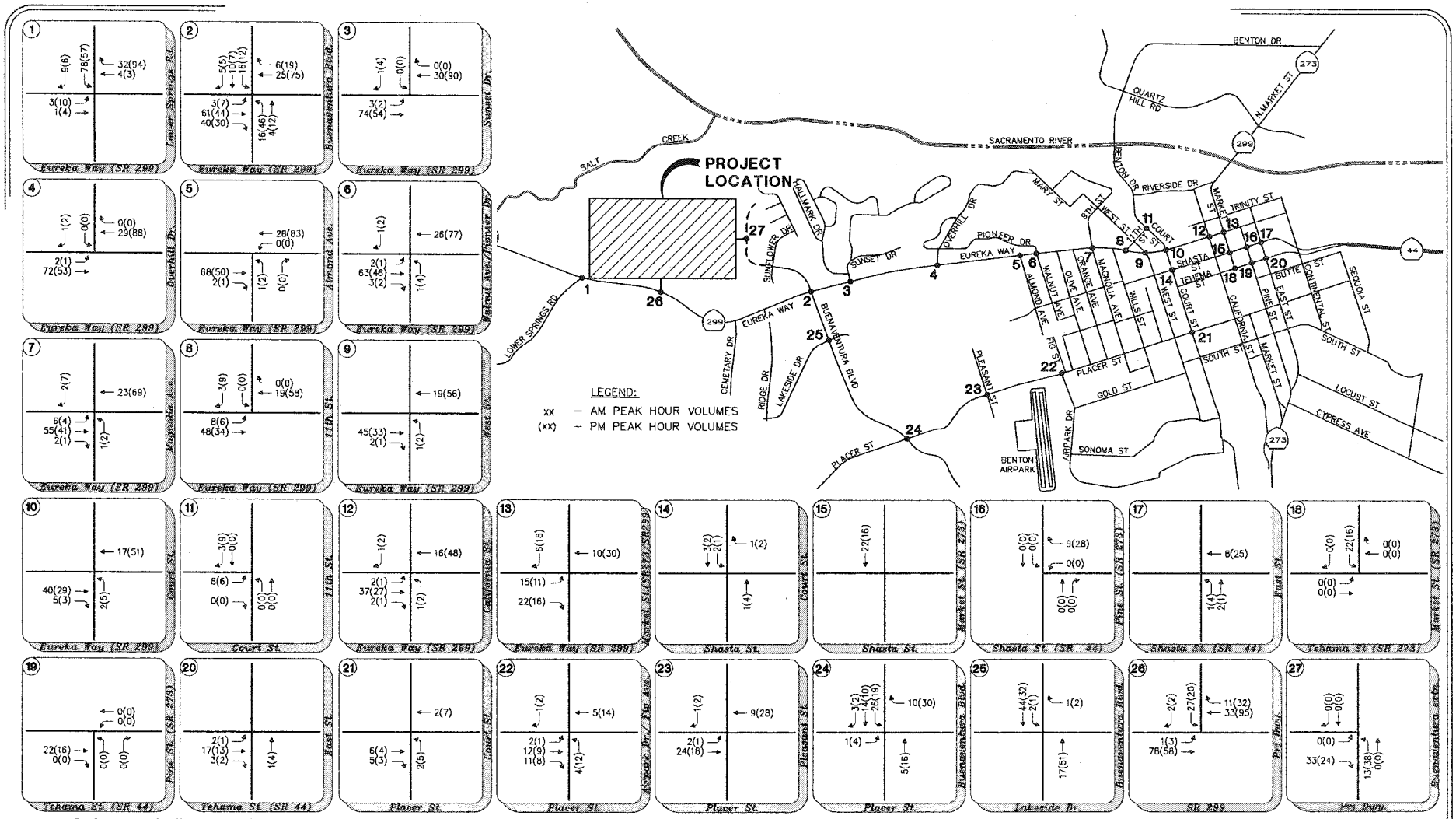

Salt Creek Residential Development - TIAR

Figure 8A

Short Term Conditions "Project Only" Traffic Volumes

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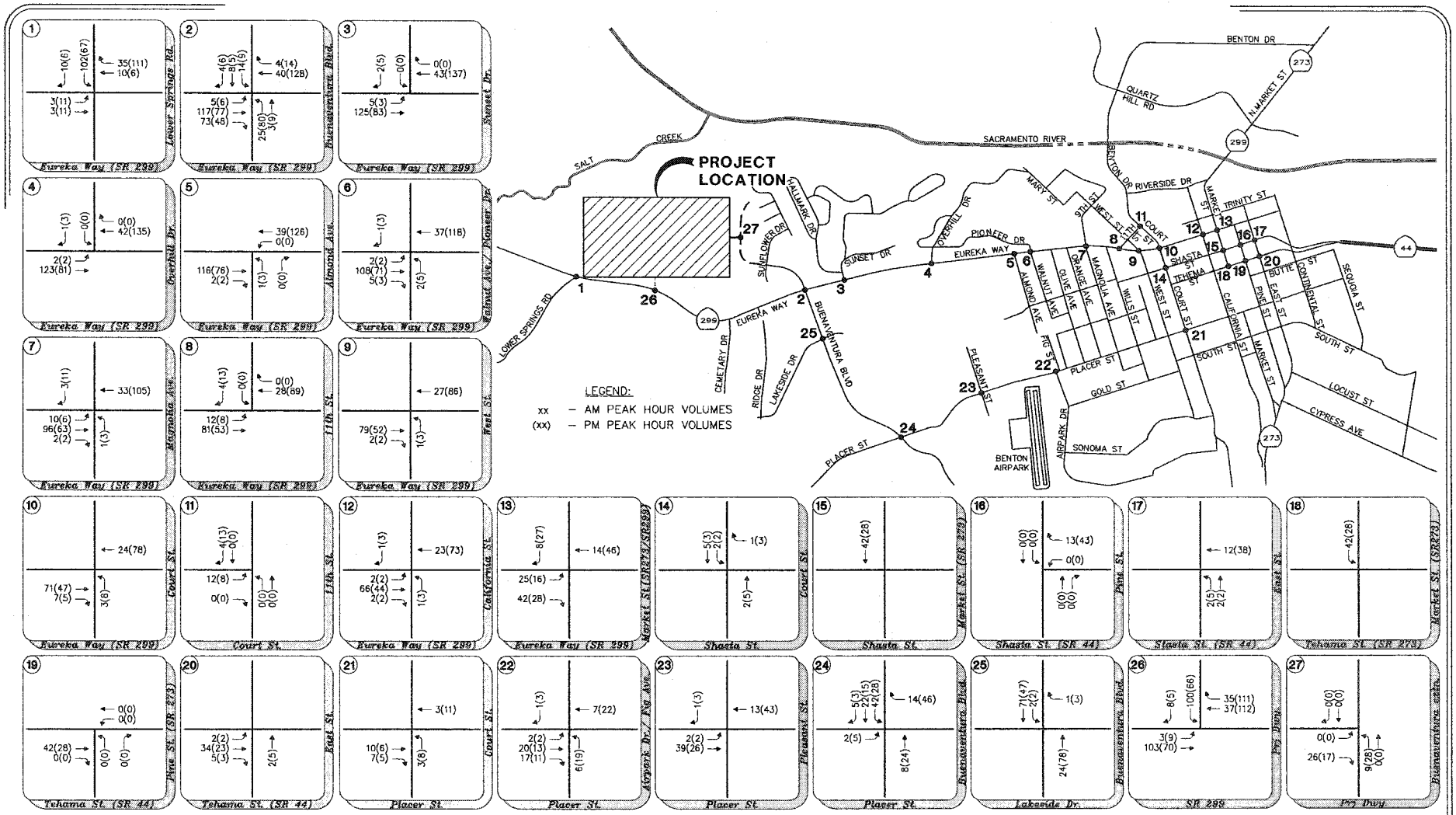
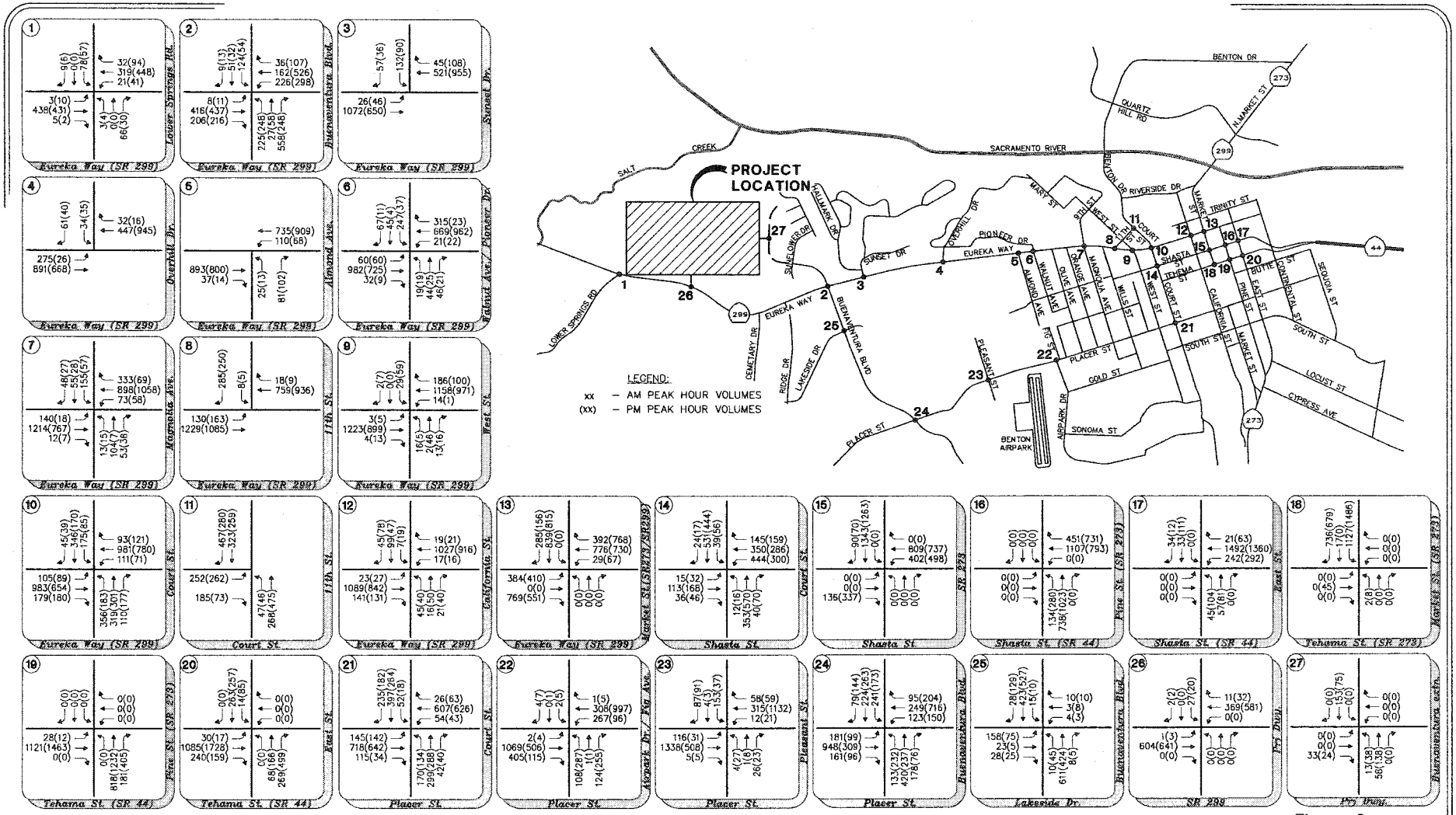
Job No. 45-6550-02



Salt Creek Residential Development - TIAR

Figure 8B

Year 2030 Conditions "Project Only" Traffic Volumes



Salt Creek Residential Development - TIAR

Figure 9

Short Term (Year 2015) Plus Project Intersection Traffic Volumes

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Job No: 45-6550-02

SHORT TERM PLUS PROJECT TRAFFIC OPERATIONS

INTERSECTIONS

Short Term Plus Project peak-hour intersection traffic operations were analyzed utilizing derived *Short Term Plus Project* peak-hour intersection traffic volumes (shown on Figure 9) and lane geometrics and control depicted in Figure 6. **Table 6A** provides a summary of the *Short Term Plus Project* peak-hour intersection Levels-of-Service.

TABLE 6A
SHORT TERM PLUS PROJECT: INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control Type	Target LOS	AM Peak Hour			PM Peak Hour		
				Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?
1	Eureka Way (SR 299)/Lower Springs Rd./Prj Dwy.	TWSC	D	32.3	D	No	30.1	D	No
2	Eureka Way (SR 299)/Buenaventura Blvd.	Signal	D	27.8	C	-	25.7	C	-
3	**Eureka Way(SR 299)/Sunset Dr.**	**TWSC**	**D**	**94.8**	**F**	**Yes**	**153.5**	**F**	**Yes**
4	Eureka Way (SR 299)/Overhill Dr.	TWSC	D	21.7	C	No	20.3	C	No
5	Eureka Way (SR 299)/Almond Ave.	TWSC	D	19.5	C	No	15.4	C	No
6	Eureka Way (SR 299)/Walnut Ave./Pioneer Dr.	Signal	D	19.2	B	-	14.3	B	-
7	Eureka Way (SR 299)/Magnolia Ave.	Signal	D	33.0	C	-	16.8	B	-
8	Eureka Way (SR 299)/11th St.	TWSC	D	21.3	C	-	23.0	C	-
9	**Eureka Way (SR 299)/West St.**	**TWSC**	**D**	**480.0**	**F**	**No**	**OVR**	**F**	**No**
10	**Eureka Way (SR 299)/Court St.**	**Signal**	**D**	**276.4**	**F**	**-**	**92.0**	**F**	**-**
11	**Court St./11th St.**	**TWSC**	**C**	**281.5**	**F**	**Yes**	**216.6**	**F**	**Yes**
12	Eureka Way (SR 299)/California St.	Signal	D	15.9	B	-	16.5	B	-
13	Eureka Way (SR 299)/Market St.(SR 273/SR 299)	Signal	D	52.4	D	-	52.6	D	-
14	Shasta St./Court St.	Signal	C	33.9	C	-	30.4	C	-
15	Shasta St./Market St.(SR 273)	Signal	D	26.4	C	-	26.1	C	-
16	Shasta St. (SR 44)/Pine St. (SR 273)	Signal	D	19.2	B	-	23.2	C	-
17	Shasta St. (SR 44)/East St.	Signal	D	10.6	B	-	20.7	C	-
18	Tehama St. (SR 273)/Market St. (SR 273)	Signal	D	4.8	A	-	2.6	A	-
19	Tehama St. (SR 44)/Pine St. (SR 273)	Signal	D	11.0	B	-	15.3	B	-
20	Tehama St. (SR 44)/East St. (SR 273)	Signal	D	20.0	B	-	29.0	C	-
21	Placer St./Court St.	Signal	C	33.9	C	-	29.5	C	-
22	**Placer St./Airpark Dr./Fig Ave.**	**Signal**	**C**	**47.8**	**D**	**-**	**80.2**	**F**	**-**
23	**Placer St./Pleasant St.**	**Signal**	**C**	**67.8**	**E**	**-**	26.9	C	-
24	**Placer St./Buenaventura Blvd.**	**Signal**	**C**	**48.2**	**D**	**-**	**47.7**	**D**	**-**
25	**Buenaventura Blvd./Lakeside Dr.**	**TWSC**	**C**	**233.4**	**F**	**Yes**	**55.4**	**F**	**No**
26	Eureka Way (SR 299)/Road B	TWSC	D	20.8	C	-	28.0	D	-
27	Burneventura Blvd. Extn./Prj Dwy.	TWSC	C	9.3	A	-	8.8	A	-

Notes:
TWSC = Two Way Stop Control
LOS = worst case movement's LOS for TWSC intersections
Warrant = MUTCD Peak hour volume based signal warrant

Based on a comparison of "no project" vs. "plus project" intersection levels of service as presented in Table 5A and Table 6A, respectively, all intersections projected to operate unacceptably under *Short Term No Project* conditions are projected to continue operating unacceptably with increases in delay following build-out of the project.

Based on the significance criteria as outlined earlier, the project is found to have a significant impact at the following intersections:

- Intersection #3) SR 299/Sunset Drive – increases delay by more than 5 seconds

- Intersection #9) SR 299/West St. – increases delay by more than 5 seconds
- Intersection #11) Court Street/11th Street – increases delay by more than 5 seconds
- Intersection #22) Placer St./Airpark Drive (Fig Ave.) – increases delay by more than 5 seconds
- Intersection #25) Buenaventura Blvd./ Lakeside Drive – increases delay by more than 5 seconds

Mitigations are discussed in a subsequent section of this report.

ROADWAY SEGMENTS

Short Term Plus Project daily traffic operations along roadway segments were analyzed by evaluating arterial segment roadway operations along Eureka Way (SR 299). **Table 6B** contains a summary of the resulting *Short Term Plus Project* roadway segment LOS conditions.

TABLE 6B
SHORT TERM PLUS PROJECT: ROADWAY LEVELS-OF-SERVICE

Roadway Segment - Eastbound Direction	Target LOS	Capacity Configuration	Arterial Class	Free Flow Speed (mph)	AM peak hour		PM peak hour	
					Arterial Speed (mph)	LOS	Arterial Speed (mph)	LOS
SR 299 - Lower Springs Rd. to Buenaventura Blvd.	D	Two to Four Lane Arterial	II	50	36.9	A	37.5	A
SR 299 - Buenaventura Blvd. to Court St.	D	Four-Lane Divided Arterial	II	35 to 45	29.1	B	32.4	B
Roadway Segment - Westbound Direction	**Target LOS**	**Capacity Configuration**	**Arterial Class**	**Free Flow Speed (mph)**	**AM peak hour**		**PM peak hour**	
					Arterial Speed (mph)	**LOS**	**Arterial Speed (mph)**	**LOS**
SR 299 - Lower Springs Rd. to Buenaventura Blvd.	D	Two to Four Lane Arterial	II	50	48.2	A	47.8	A
SR 299 - Buenaventura Blvd. to Court St.	D	Four-Lane Divided Arterial	II	35 to 45	30.7	B	32.8	B

Note
1) Analysis conducted for 2-lane, 3-lane, and 4-lane segments per existing configuration.

As shown in Table 6B, on a corridor basis, SR 299 between Lower Springs Rd. and Court St. is projected to operate at acceptable LOS, based on average speed.

CUMULATIVE CONDITIONS

Cumulative (Year 2030) conditions refer to analysis scenarios, which would exist following assumed build out of the local General Plan, and typically refer to analysis scenarios approximately 20 years in the future. The City of Redding and Caltrans have established that the cumulative year of analysis should be 2030. *Cumulative No Project* conditions assume that the Salt Creek Heights project would remain undeveloped (i.e., a "vacant" project site) through year 2030, and year 2030 model land uses are assumed elsewhere. *Cumulative Plus Project* conditions were then simulated by superimposing the proposed project-generated traffic on top of the *Cumulative No Project* traffic volumes.

PLANNED/PROGRAMMED IMPROVEMENTS

In the project vicinity, the Transportation Element within the *City of Redding General Plan* provides a lists the following ultimate improvements (*Appendix A, City of Redding, General Plan Transportation Element)*:

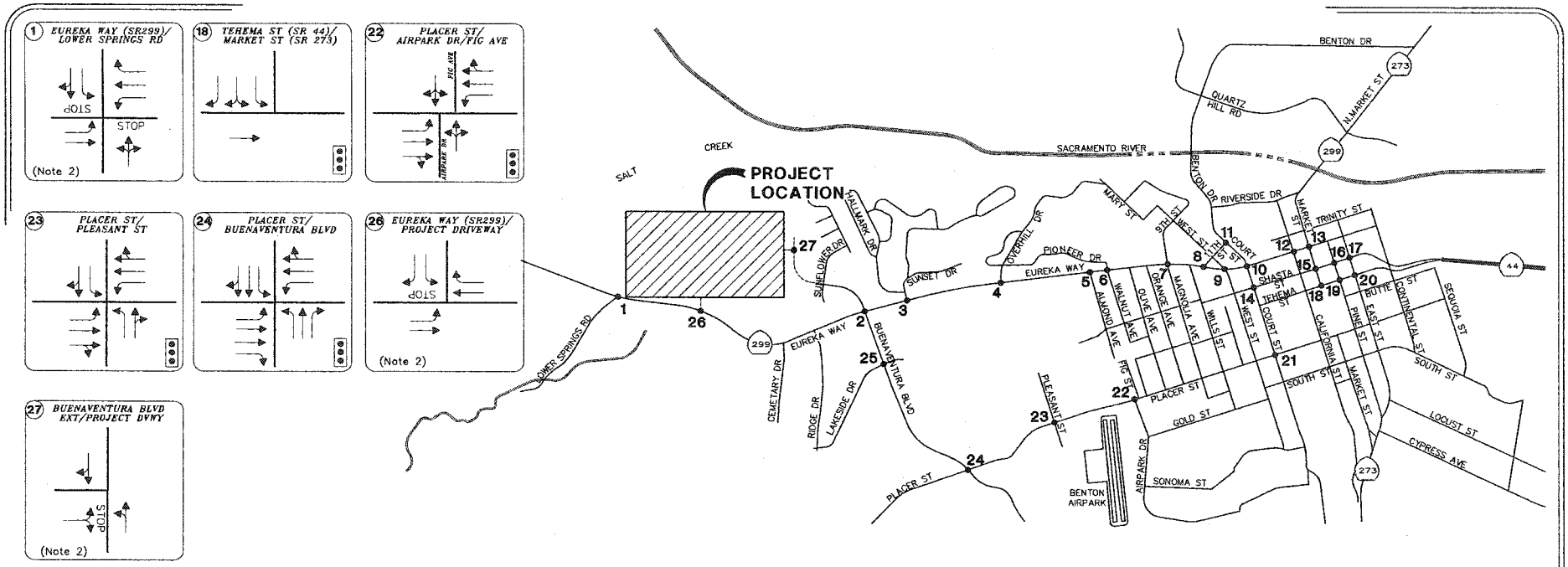
- Placer Street – improve Placer Street between Buenaventura Blvd. and Airpark Dr. to a four-lane divided arterial

Following these improvements, intersection approach geometrics will change at some intersections. **Figure 10** show the Cumulative Conditions lane geometrics and control which will be assumed for this study.

TRAFFIC VOLUMES

The long-term traffic forecasts for this study have been developed using the Shasta County Regional Travel Demand Forecast Model (last major update in January 2007). It is noted that there is a shift in traffic distribution patterns following improvements to Placer Street, as a result of which *Cumulative No Project* volumes at some locations on Eureka Way might be lesser than *Short Term No Project* volumes.

Figure 11 depicts the *Cumulative No Project* intersection and roadway volumes.



NOTE: 1. Lane geometrics and control at all other intersections are similar to existing conditions.
2. Lane geometrics and control for Plus Project conditions.

Salt Creek Residential Development - TIAR

Figure 10

Cumulative Conditions (Year 2030) Intersection Lane Geometrics and Control

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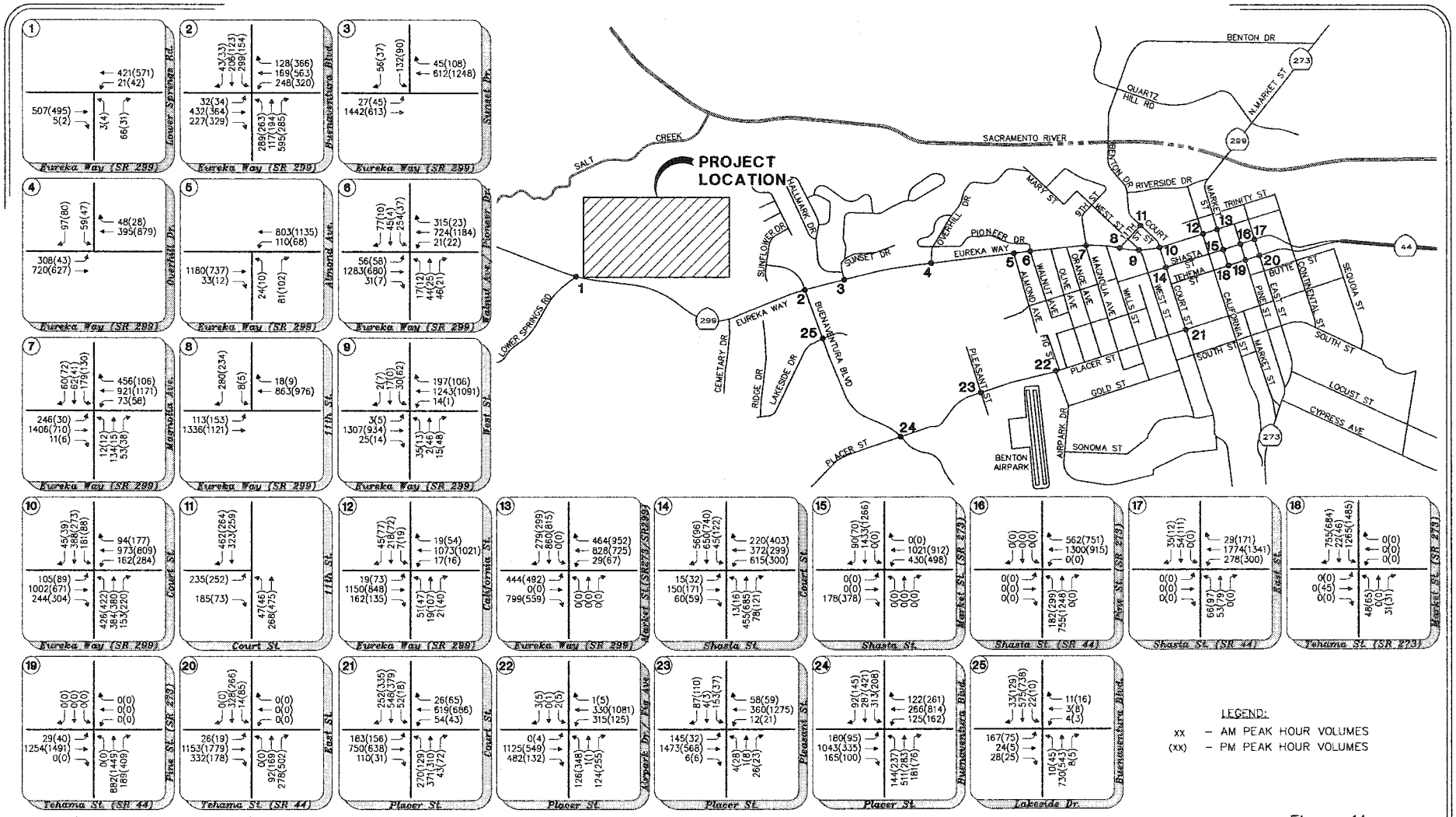

Salt Creek Residential Development - TIAR

Figure 11

Cumulative (Year 2030) No Project Intersection Traffic Volumes

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Job No: 45-6550-02

CUMULATIVE NO PROJECT TRAFFIC OPERATIONS

INTERSECTIONS

Cumulative No Project peak-hour intersection traffic operations were analyzed utilizing lane geometries and control shown in Figure 10. **Table 7A** provides a summary of the resulting *Cumulative No Project* peak-hour intersection Levels-of-Service.

TABLE 7A
CUMULATIVE NO PROJECT: INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control Type[1,2]	Target LOS	AM Peak Hour			PM Peak Hour		
				Delay	LOS	Warrant Met?[3]	Delay	LOS	Warrant Met?[3]
1	Eureka Way (SR 299)/Lower Springs Rd./Prj Dwy.	TWSC	D	13.5	B	No	13.8	B	No
2	**Eureka Way (SR 299)/Buenaventura Blvd.**	**Signal**	**D**	**55.8**	**E**	**-**	34.5	C	-
3	**Eureka Way(SR 299)/Sunset Dr.**	**TWSC**	**D**	**299.2**	**F**	**Yes**	**427.6**	**F**	**Yes**
4	Eureka Way (SR 299)/Overhill Dr.	TWSC	D	29.4	D	-	21.2	C	-
5	Eureka Way (SR 299)/Almond Ave.	TWSC	D	26.7	D	-	14.5	B	-
6	Eureka Way (SR 299)/Walnut Ave./Pioneer Dr.	Signal	D	20.9	C	-	15.8	B	-
7	Eureka Way (SR 299)/Magnolia Ave.	Signal	D	49.9	D	-	17.1	B	-
8	Eureka Way (SR 299)/11th St.	TWSC	D	24.5	C	-	22.9	C	-
9	**Eureka Way (SR 299)/West St.**	**TWSC**	**D**	**OVR**	**F**	**No**	**OVR**	**F**	**Yes**
10	**Eureka Way (SR 299)/Court St.**	**Signal**	**D**	**311.9**	**F**	**-**	**300.5**	**F**	**-**
11	**Court St./11th St.**	**TWSC**	**C**	**247.3**	**F**	**Yes**	**191.1**	**F**	**Yes**
12	Eureka Way (SR 299)/California St.	Signal	D	18.8	B	-	20.9	C	-
13	**Eureka Way (SR 299)/Market St.(SR 273/SR 299)**	**Signal**	**D**	**64.6**	**E**	**-**	**71.0**	**E**	**-**
14	**Shasta St./Court St.**	**Signal**	**C**	**38.6**	**D**	**-**	**41.5**	**D**	**-**
15	Shasta St./Market St.(SR 273)	Signal	D	48.0	D	-	35.1	D	-
16	Shasta St. (SR 44)/Pine St. (SR 273)	Signal	D	20.6	C	-	26.6	C	-
17	Shasta St. (SR 44)/East St.	Signal	D	12.0	B	-	15.8	B	-
18	Tehama St. (SR 273)/Market St. (SR 273)	Signal	D	7.7	A	-	7.5	A	-
19	Tehama St. (SR 44)/Pine St. (SR 273)	Signal	D	12.7	B	-	17.0	B	-
20	Tehama St. (SR 44)/East St. (SR 273)	Signal	D	21.5	C	-	28.0	C	-
21	**Placer St./Court St.**	**Signal**	**C**	**41.9**	**D**	**-**	29.9	C	-
22	**Placer St./Airpark Dr./Fig Ave.**	**Signal**	**C**	**65.1**	**E**	**-**	**39.7**	**D**	**-**
23	Placer St./Pleasant St.	Signal	C	19.8	B	-	19.8	B	-
24	**Placer St./Buenaventura Blvd.**	**Signal**	**C**	**67.1**	**E**	**-**	**39.5**	**D**	**-**
25	**Buenaventura Blvd./Lakeside Dr.**	**TWSC**	**C**	**690.8**	**F**	**Yes**	**228.4**	**F**	**Yes**

Notes:
TWSC = Two Way Stop Control, @ = at the threshold
LOS = worst case movement's LOS for TWSC intersections
Warrant = MUTCD Peak hour volume based signal warrant

As shown above, the following intersections are projected to operate unacceptably under *Cumulative No Project* conditions:

- Intersection #2) Eureka Way (SR 299)/ Buenaventura Blvd.
- Intersection #3) Eureka Way (SR 299)/ Sunset Drive
- Intersection #9) Eureka Way (SR 299)/ West Street
- Intersection #10) Eureka Way (SR 299)/ Court Street
- Intersection #11) Court Street/ 11th Street
- Intersection #13) Eureka Way (SR 299)/ Market St. (SR 273)
- Intersection #14) Shasta Street/ Court Street
- Intersection #21) Placer Street/ Court Street
- Intersection #22) Placer Street/ Airpark Drive/Fig Ave.
- Intersection #24) Placer Street/ Buenaventura Blvd.
- Intersection #25) Buenaventura Blvd./ Lakeside Drive

Mitigations are discussed in a subsequent section of the report.

ROADWAY SEGMENTS

Cumulative No Project daily traffic operations along roadway segments were analyzed by evaluating arterial segment operations along SR 299. **Table 7B** contains a summary of the *Cumulative No Project* roadway segment LOS conditions.

TABLE 7B
CUMULATIVE NO PROJECT: ROADWAY LEVELS-OF-SERVICE

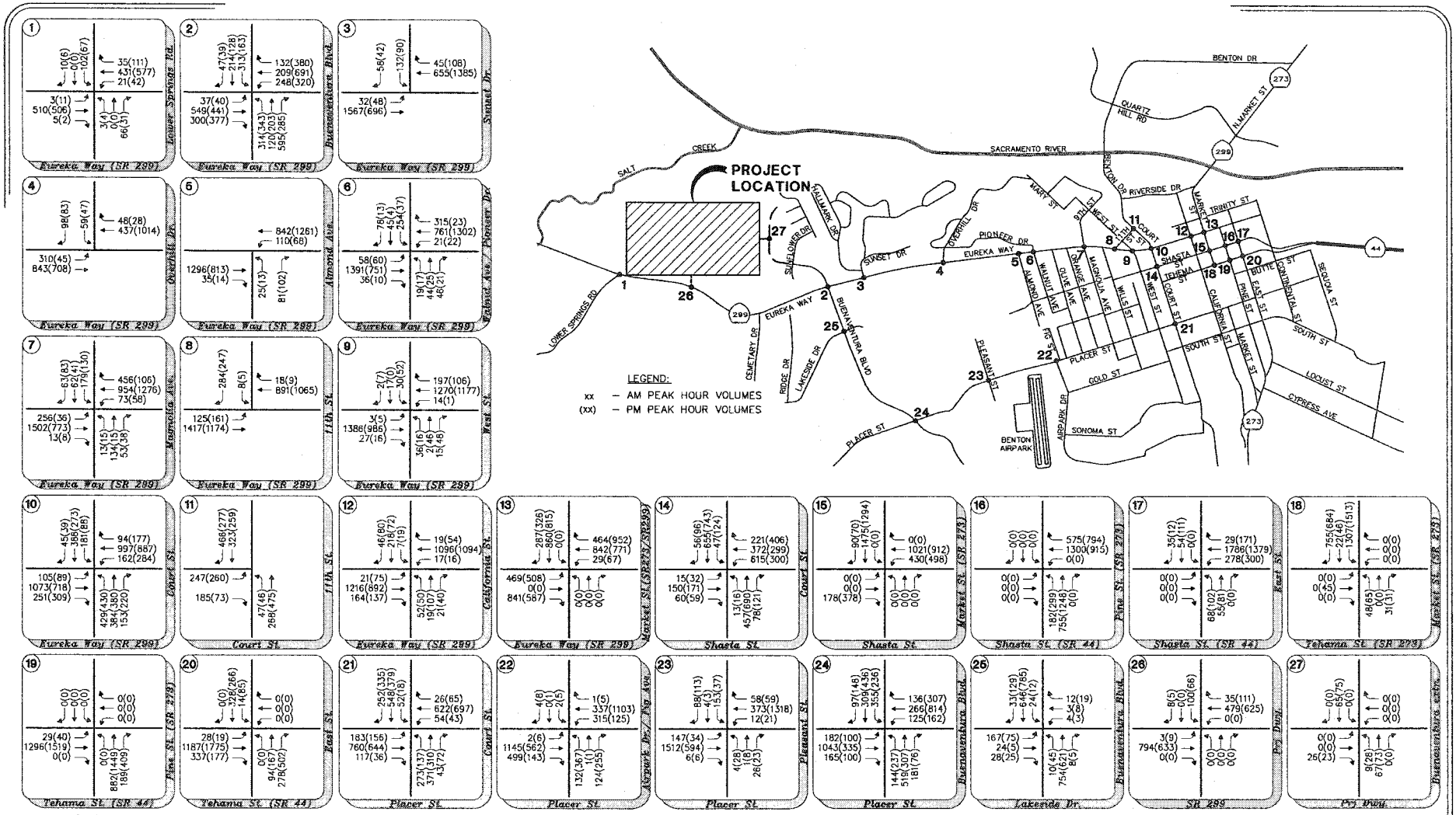
Roadway Segment - Eastbound Direction	Target LOS	Capacity Configuration	Arterial Class	Free Flow Speed (mph)	AM peak hour		PM peak hour	
					Arterial Speed (mph)	LOS	Arterial Speed (mph)	LOS
SR 299 - Lower Springs Rd. to Buenaventura Blvd.	D	Two to Four Lane Arterial	II	50	31.4	B	34.6	B
SR 299 - Buenaventura Blvd. to Court St.	D	Four-Lane Divided Arterial	II	35 to 45	28.6	B	32.4	B
Roadway Segment - Westbound Direction	**Target LOS**	**Capacity Configuration**	**Arterial Class**	**Free Flow Speed (mph)**	**AM peak hour**		**PM peak hour**	
					Arterial Speed (mph)	**LOS**	**Arterial Speed (mph)**	**LOS**
SR 299 - Lower Springs Rd. to Buenaventura Blvd.	D	Two to Four Lane Arterial	II	50	48.1	A	46.9	A
SR 299 - Buenaventura Blvd. to Court St.	D	Four-Lane Divided Arterial	II	35 to 45	27.1	C	30.3	B

Note
1) Analysis conducted for 2-lane, 3-lane, and 4-lane segments per existing configuration.

As shown in Table 7B, on a corridor basis, SR 299 between Lower Springs Rd. and Court St. is projected to operate at acceptable LOS.

CUMULATIVE PLUS PROJECT TRAFFIC OPERATIONS

Cumulative Plus Project conditions were simulated by superimposing traffic generated by the proposed project onto *Cumulative No Project* intersection and roadway traffic volumes. The resulting *Cumulative Plus Project* intersection traffic volumes and roadway traffic volumes are illustrated on **Figure 12**.



Salt Creek Residential Development - TIAR

Figure 12

Cumulative Conditions (Year 2030) Plus Project Intersection Traffic Volumes

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INTERSECTIONS

Cumulative Plus Project peak-hour intersection traffic operations were analyzed utilizing derived *Cumulative Plus Project* peak-hour intersection traffic volumes (shown on Figure 12) and lane geometrics and control depicted in Figure 10. **Table 8A** provides a summary of the *Cumulative Plus Project* peak-hour intersection Levels-of-Service.

TABLE 8A
CUMULATIVE PLUS PROJECT: INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control Type[1,2]	Target LOS	AM Peak Hour			PM Peak Hour		
				Delay	LOS	Warrant Met?[3]	Delay	LOS	Warrant Met?[3]
1	**Eureka Way (SR 299)/Lower Springs Rd./Prj Dwy.**	**TWSC**	**D**	**75.9**	**F**	**Yes**	**72.4**	**F**	**No**
2	**Eureka Way (SR 299)/Buenaventura Blvd.**	**Signal**	**D**	**65.7**	**E**	**-**	39.2	D	-
3	**Eureka Way(SR 299)/Sunset Dr.**	**TWSC**	**D**	**441.4**	**F**	**Yes**	**740.4**	**F**	**Yes**
4	Eureka Way (SR 299)/Overhill Dr.	TWSC	D	34.6	D	No	25.9	D	No
5	Eureka Way (SR 299)/Almond Ave.	TWSC	D	32.3	D	No	16.1	C	No
6	Eureka Way (SR 299)/Walnut Ave./Pioneer Dr.	Signal	D	22.3	C	-	12.7	B	-
7	Eureka Way (SR 299)/Magnolia Ave.	Signal	D	52.8	D	-	18.4	B	-
8	Eureka Way (SR 299)/11th St.	TWSC	D	26.5	D	No	27.9	D	No
9	**Eureka Way (SR 299)/West St.**	**TWSC**	**D**	**OVR**	**F**	**No**	**OVR**	**F**	**Yes**
10	**Eureka Way (SR 299)/Court St.**	**Signal**	**D**	**312.4**	**F**	**-**	**301.8**	**F**	**-**
11	**Court St./11th St.**	**TWSC**	**C**	**271.6**	**F**	**Yes**	**211.5**	**F**	**Yes**
12	Eureka Way (SR 299)/California St.	Signal	D	19.1	B	-	21.6	C	-
13	**Eureka Way (SR 299)/Market St.(SR 273/SR 299)**	**Signal**	**D**	**71.5**	**E**	**-**	**77.6**	**E**	**-**
14	**Shasta St./Court St.**	**Signal**	**C**	**39.0**	**D**	**-**	**41.8**	**D**	**-**
15	Shasta St./Market St.(SR 273)	Signal	D	47.5	D	-	35.1	D	-
16	Shasta St. (SR 44)/Pine St. (SR 273)	Signal	D	20.7	C	-	27.3	C	-
17	Shasta St. (SR 44)/East St.	Signal	D	12.4	B	-	17.0	B	-
18	Tehama St. (SR 273)/Market St. (SR 273)	Signal	D	7.8	A	-	8.5	A	-
19	Tehama St. (SR 44)/Pine St. (SR 273)	Signal	D	13.0	B	-	17.2	B	-
20	Tehama St. (SR 44)/East St. (SR 273)	Signal	D	21.6	C	-	28.2	C	-
21	**Placer St./Court St.**	**Signal**	**C**	**42.6**	**D**	**-**	30.0	C	-
22	**Placer St./Airpark Dr./Fig Ave.**	**Signal**	**C**	**68.4**	**E**	**-**	**43.4**	**D**	**-**
23	Placer St./Pleasant St.	Signal	C	19.9	B	-	18.3	B	-
24	**Placer St./Buenaventura Blvd.**	**Signal**	**C**	**74.1**	**E**	**-**	**43.0**	**D**	**-**
25	**Buenaventura Blvd./Lakeside Dr.**	**TWSC**	**C**	**911.3**	**F**	**Yes**	**384.3**	**F**	**Yes**
26	**Eureka Way (SR 299)/Road B**	**TWSC**	**D**	**68.4**	**F**	**Yes**	**45.8**	**E**	**No**
27	Burneventura Blvd. extn./Prj Dwy.	TWSC	C	8.7	A	No	8.8	A	No

Notes:
TWSC = Two Way Stop Control
LOS = worst case movement's LOS for TWSC intersections
Warrant = MUTCD Peak hour volume based signal warrant

As shown above, all intersections projected to operate unacceptably under *Year 2030 No Project* conditions are projected to continue operating unacceptably following build-out of the project. Based on the significance criteria as outlined earlier, the project is found to have a significant impact at the following intersections:

- Intersection #1) SR 299/Lower Springs Rd. – acceptable to unacceptable LOS
- Intersection #2) SR 299/Buenaventura Blvd. – increase delay by more than 5 seconds
- Intersection #3) SR 299/Sunset Drive – increase delay by more than 5 seconds
- Intersection #9) SR 299/West St. – increase delay by more than 5 seconds
- Intersection #11) Court Street/11th Street – increase delay by more than 5 seconds
- Intersection #13) Euerka Way (SR 299)/Market St. (SR 273/SR 299) – increase delay by more than 5 seconds
- Intersection #24) Placer St./Buenaventura Blvd. – increase delay by more than 5 seconds

- Intersection #25) Buenaventura Blvd./Lakeside Drive – increase delay by more than 5 seconds
- Intersection #26) Eureka Way (SR 299)/Road B – acceptable to unacceptable LOS

Mitigations are discussed in a subsequent section.

ROADWAY SEGMENTS

Cumulative Plus Project daily traffic operations along roadway segments were analyzed by evaluating arterial segment operations on them. **Table 8B** contains a summary of the *Cumulative Plus Project* roadway segment LOS conditions.

TABLE 8B
CUMULATIVE PLUS PROJECT: ROADWAY LEVELS-OF-SERVICE

Roadway Segment - Eastbound Direction	Target LOS	Capacity Configuration	Arterial Class	Free Flow Speed (mph)	AM peak hour		PM peak hour	
					Arterial Speed (mph)	LOS	Arterial Speed (mph)	LOS
SR 299 - Lower Springs Rd. to Buenaventura Blvd.	D	Two to Four Lane Arterial	II	50	27.4	C	33.7	B
SR 299 - Buenaventura Blvd. to Court St.	D	Four-Lane Divided Arterial	II	35 to 45	27.2	C	32.2	B
Roadway Segment - Westbound Direction	**Target LOS**	**Capacity Configuration**	**Arterial Class**	**Free Flow Speed (mph)**	**AM peak hour**		**PM peak hour**	
					Arterial Speed (mph)	**LOS**	**Arterial Speed (mph)**	**LOS**
SR 299 - Lower Springs Rd. to Buenaventura Blvd.	D	Two to Four Lane Arterial	II	50	47.9	A	47.5	A
SR 299 - Buenaventura Blvd. to Court St.	D	Four-Lane Divided Arterial	II	35 to 45	26.8	C	29.6	B

Note
1) Analysis conducted for 2-lane, 3-lane, and 4-lane segments per existing configuration.

As shown in Table 8B, on a corridor basis, SR 299 between Lower Springs Rd. and Court St. is projected to operate at acceptable LOS.

RECOMMENDED IMPROVEMENTS AND MITIGATION MEASURES

This section presents recommended base improvements as well as project-related mitigation measures at the study intersections and roadway segments, developed based on the findings from the analyses presented in the prior sections of this report.

EXISTING CONDITIONS

Intersections

#3) Eureka Way (SR 299)/Sunset Dr.: This Two-Way-Stop Controlled intersection is currently operating at unacceptable LOS F during the AM and PM peak-hour and meets the signal warrant criteria. The recommended improvement is to signalize the intersection following which operations improve to acceptable LOS A.

#9) Eureka Way (SR 299)/West St.: This Two-Way-Stop Controlled intersection is currently operating at unacceptable LOS F during the AM and PM peak-hour, but does not meet the signal warrant criteria.

It is recommended that access control at this intersection be modified so that left turns from northbound and southbound West St. onto Eureka Way (SR 299) are prohibited. Thus the Eureka Way (SR 299)/West St. intersection would function as a right-in right-out plus left-in (from Eureka Way (SR 299) onto West St.) access. Following this circulation measure, operations will improve to acceptable LOS D.

It is noted that during the preparation of this draft report, an island was constructed at the intersection of Eureka Way and West Street that provided the above mentioned circulation improvements.

#10) Eureka Way (SR 299)/Court St.: This signalized intersection is currently operating at unacceptable LOS F during the AM and PM peak-hour. The recommended improvements include the following:

- Widen the eastbound approach to include one left-turn lane, two through lanes, and one shared through right-turn lane. This improvement can be implemented by lengthening and re-striping the existing eastbound right-turn lane. In addition, eastbound Eureka Way (SR 299), east of Court St. will need to be widened to add an additional eastbound lane.
- Widen the westbound approach to include one left-turn lane, two through lanes, and one shared through right-turn lane. This improvement can be implemented by lengthening and re-striping the existing westbound right-turn lane. In addition, westbound Eureka Way (SR 299), west of Court Street, will need to be widened to add an additional westbound lane.
- Re-stripe the northbound approach to include one left-turn lane, one shared through left-turn lane, and one exclusive right-turn lane. The northbound and southbound approaches will now operate with split phasing.
- Increase the cycle length and optimize signal timings

Following these improvements, operations improve to acceptable LOS D.

#11) Court St./11th St.: This Two-Way-Stop Controlled intersection is currently operating at unacceptable LOS F during the AM and PM peak-hour and meets the signal warrant criteria. The recommended improvement is to signalize the intersection following which operations improve to acceptable LOS C during the AM peak-hour and LOS B during the PM peak-hour.

#25) Buenaventura Blvd./Lakeside Dr.: This Two-Way-Stop-Controlled intersection is currently operating at unacceptable LOS F during the AM peak hour and LOS D during the PM peak-hour and does not meet the

signal warrant criteria. However, it is projected to meet the signal warrant criteria under Year 2030 analysis scenarios. The recommended improvement is to signalize the intersection following which operations improve to acceptable LOS A.

SHORT TERM NO PROJECT CONDITIONS

Intersections

#3) Eureka Way (SR 299)/Sunset Dr.: This Two-Way-Stop Controlled intersection is projected to operate at unacceptable LOS F during the AM and PM peak-hour and meets the signal warrant criteria under *Short Term No Project* conditions. The improvements recommended for existing conditions (signalization) would accommodate *Short Term No Project* conditions.

#9) Eureka Way (SR 299 /West St.: This Two-Way-Stop Controlled intersection is projected to operate at unacceptable LOS F during the AM and PM peak-hour, and meets the signal warrant criteria under *Short Term No Project* conditions. The improvements recommended for existing conditions would accommodate *Short Term No Project* conditions.

It is noted that during the preparation of this study, an island was constructed at the intersection of Eureka Way and West Street that provided the above mentioned circulation improvements.

#10)Eureka Way (SR 299)/Court St.: This signalized intersection is projected to operate at unacceptable LOS F during the AM and PM peak-hour. The recommended improvements include the following:

- Widen the eastbound approach to include one left-turn lane, three through lanes, and one exclusive right-turn lane. In addition, eastbound Eureka Way (SR 299), east of Court St., will need to be widened to accommodate an additional eastbound lane.
- Widen the westbound approach to include one left-turn lane, three through lanes, and one exclusive right-turn lane. In addition, westbound Eureka Way (SR 299), west of Court St. will need to be widened to accommodate an additional westbound lane.
- Re-stripe the northbound approach to include one left-turn lane, one shared through left-turn lane, and one exclusive right-turn lane. The northbound and southbound approaches will now operate with split phasing.
- Increase the cycle length and optimize signal timings

Following these improvements, operations improve to acceptable LOS D.

#11) Court St./11th St.: This Two-Way-Stop Controlled intersection is currently operating at unacceptable LOS F during the AM and PM peak-hour and meets the signal warrant criteria under *Short Term No Project* conditions. The improvements recommended for existing conditions (signalization) would accommodate *Short Term No Project* conditions.

#22) Placer St./Airpark Dr./Fig Ave.: This signalized intersection is projected to operate at unacceptable LOS D under *Short Term No Project* conditions. The recommended improvements include the following:

a) Re-stripe the westbound approach to include one left-turn lane, one through lane, and one shared through right-turn lane.
b) Widen the eastbound approach to include one left-turn lane, two through lanes, and one exclusive right-turn lane.

It is noted that some of these improvements are included in the City of Redding's General Plan as a future year improvement. Following these improvements, operations improve to acceptable LOS C.

#23) Placer St./Pleasant St.: This signalized intersection is projected to operate at unacceptable LOS E during the AM peak hour under *Short Term No Project* conditions. The recommended measure is to improve the eastbound and westbound approaches to include a single left-turn lane, one through lane, and one shared through right-turn lane. It is noted that these improvements are included in the City of Redding's General Plan as future year improvements and assumed to be in place under Year 2030 conditions. Following these improvements, operations would improve to acceptable LOS B or better.

#24) Placer St./Buenaventura Blvd.: This signalized intersection is projected to operate at LOS D during the AM and PM peak-hour. The recommended improvements include widening each approach to include one left-turn lane, two through lanes, and one exclusive right-turn lane. All approaches must be provided with free right-turns.

It is noted that some of these improvements are included as planned improvements in the City of Redding's General Plan, and have been assumed to be in place under Year 2030 conditions. Following these improvements operations improve to acceptable LOS C

#25) Buenaventura Blvd./Lakeside Dr.: This Two-Way-Stop-Controlled intersection is projected to operate at unacceptable LOS F during the AM peak hour and LOS E during the PM peak-hour and does not meet the signal warrant criteria under *Short Term No Project* conditions. The improvements recommended for existing conditions (signalization) would accommodate *Short Term No Project* conditions.

SHORT TERM PLUS PROJECT CONDITIONS

Intersections

The improvements identified for Short Term No Project conditions are sufficient to handle the additional trips generated by the project. Refer to the *Short Term No Project* section on the previous page for the recommendations that are applicable to the *Short Term Plus Project* conditions.

Based on the significance criteria as outlined earlier, the project is found to have a significant impact at the following intersections:

- Intersection #3) Eureka Way (SR 299)/Sunset Drive – increase delay by more than 5 seconds
- Intersection #9) Eureka Way (SR 299)/West St. – increase delay by more than 5 seconds
- Intersection #11) Court Street/11th Street – increase delay by more than 5 seconds
- Intersection #22) Placer St./Airpark Drive (Fig Ave.) – increase delay by more than 5 seconds
- Intersection #25) Buenaventura Blvd./ Lakeside Drive – increase delay by more than 5 seconds

CUMULATIVE NO PROJECT CONDITIONS

Intersections

#2) Eureka Way (SR 299)/Buenaventura Blvd.: This signalized intersection is projected to operate at unacceptable LOS E in the AM peak hour under *Cumulative No Project* conditions. The recommended improvement is to widen the southbound approach to include an exclusive left-turn lane, a shared through-left turn lane, and an exclusive right-turn lane. Following these improvements, operations improve to acceptable LOS D.

#3) Eureka Way (SR 299)/Sunset Dr.: This Two-Way-Stop Controlled intersection is projected to operate at unacceptable LOS F during the AM and PM peak-hour and meets the signal warrant criteria. The improvements recommended under Existing, *Short Term No Project*, and *Short Term Plus Project* will

conditions will accommodate *Cumulative No Project* conditions.

#9) Eureka Way (SR 299)/West St.: This Two-Way-Stop Controlled intersection is projected to operate at unacceptable LOS F during the AM and PM peak-hour, and meets the signal warrant criteria under *Cumulative No Project* conditions. The improvements recommended under Existing, *Short Term No Project*, and *Short Term Plus Project* will conditions will accommodate *Cumulative No Project* conditions.

It is noted that during the preparation of this study, an island was constructed at the intersection of Eureka Way and West Street that provided the above mentioned circulation improvements.

#10) Eureka Way (SR 299)/Court St.: This signalized intersection is projected to operate at unacceptable LOS F during the AM and PM peak-hour. The following improvements are necessary to improve operations to acceptable LOS:

- Widen the eastbound approach to include one left-turn lane, three through lanes, and one exclusive right-turn lane.
- Widen the westbound approach to include one left-turn lane, three through lanes, and one exclusive.
- Widen the northbound approach to include two left turn lanes, one through lane, and one exclusive right-turn lane.
- Widen the southbound approach to include one left-turn lane, one through lane, and one exclusive right-turn lane. The northbound and southbound approaches will operate at split phasing.
- Increase the cycle length and optimize splits

#11) Court St./11th St.: This Two-Way-Stop Controlled intersection is projected to operate at unacceptable LOS F during the AM and PM peak-hour and meets the signal warrant criteria. The improvements recommended under *Existing*, *Short Term No Project*, and *Short Term Plus Project* conditions will accommodate *Cumulative No Project* conditions.

#13) Eureka Way (SR 299)/Market St. (SR 273/SR 299).: This signalized intersection is projected to operate at unacceptable LOS E with Caltrans provided signal timings. The recommended improvement is to provide a greater cycle length (about 90 seconds or more) and optimize the signal timings following which operations improve to acceptable LOS D.

Note; Adjusting traffic signal timing is part of the standard ongoing signal operations work performed by Caltrans. It is anticipated that Caltrans will make incremental signal timing adjustments on a regular basis as deemed appropriate by Caltrans.

#14) Shasta St./Court St..: This signalized intersection is projected to operate unacceptable LOS D during the AM and PM peak hour with Caltrans provided signal timings. The following improvements are required to improve operations to acceptable LOS C.

a) Improve and re-stripe the westbound approach to include one left-turn pocket, one shared through left-turn lane, and one right-turn pocket (75 ft long)
b) The exclusive left-turn lane recommended above will be 290 feet long and span the entire length of Shasta Street between Court St. and Oregon St.

#21) Placer St./Court St.: This signalized intersection is projected to operate at unacceptable LOS D during the AM peak hour under *Cumulative No Project* conditions. The recommended improvement is to widen the southbound and eastbound approaches to include a single left-turn lane, two through lanes, and one exclusive right-turn lane. Following these improvements, operations improve to LOS C.

#22) Placer St./Airpark Dr./Fig Ave.: This signalized intersection is projected to operate at unacceptable LOS

E in the AM peak hour and LOS D in the PM peak hour under *Cumulative No Project* conditions. The improvements recommended under *Short-Term No-Project* and *Short-Term Plus Project* conditions will accommodate *Cumulative No Project* conditions.

#24) Placer St./Buenaventura Blvd.: This signalized intersection is projected to operate at unacceptable LOS E in the AM peak hour and LOS D in the PM peak hour under *Cumulative No Project* conditions. The recommended improvements include the following:

a) Widen the northbound approach to include one left-turn lane, two through lanes, and one exclusive right-turn lane
b) Widen the southbound approach to include dual left-turn lanes, two through lanes, and one exclusive right-turn lane
c) Widen the eastbound approach to include one left-turn lane, two through lanes, and one shared through right-turn lane.
d) Widen the westbound approach to include one left-turn lane, two through lanes, and one exclusive right-turn lane

#25) Buenaventura Blvd./Lakeside Dr.: This Two-Way-Stop-Controlled intersection is projected to operate at unacceptable LOS during the AM and PM peak-hour and meets the signal warrant criteria. The recommended improvement is to signalize the intersection and widen the eastbound approach to include one left-turn lane, and one shared through right-turn lane, following which operations improve to acceptable LOS C.

CUMULATIVE PLUS PROJECT CONDITIONS

Intersections

The following intersections are projected to operate at unacceptable LOS under *Year 2030 Plus Project* conditions, with their respective significance indicated.

Based on the significance criteria as outlined earlier, the project is found to have a significant impact at the following intersections:

- Intersection #1) Eureka Way (SR 299)/Lower Springs Rd.:
  - acceptable to unacceptable LOS
  - significant impact
- Intersection #2) Eureka Way (SR 299)/Buenaventura Blvd.:
  - acceptable to unacceptable LOS
  - significant impact
- Intersection #3) Eureka Way (SR 299)/Sunset Drive:
  - increase delay by more than 5 seconds
  - significant impact
- Intersection #9) Eureka Way (SR 299)/West St.:
  - increase in delay by more than 5 seconds
  - significant impact
- Intersection #10) Eureka Way (SR 299)/Court Street:
  - not significant
- Intersection #11) Court Street/11th Street:
  - increase in delay by more than 5 seconds
  - significant impact
- Intersection #13) Eureka Way (SR 299)/Market St. (SR 273/SR 299)):
  - increase in delay by more than 5 seconds
  - significant impact

Note; Adjusting traffic signal timing is part of the standard ongoing signal operations

work performed by Caltrans. It is anticipated that Caltrans will make incremental signal timing adjustments on a regular basis as deemed appropriate by Caltrans.

- Intersection #14) Shasta Street/Court Street:
  - not significant
- Intersection #21) Placer Street/Court Street:
  - not significant
- Intersection #22) Placer Street/Airpark Drive/Fig Avenue:
  - not significant
- Intersection #24) Placer St./Buenaventura Blvd.:
  - increase in delay by more than 5 seconds
  - significant impact
- Intersection #25) Buenaventura Blvd./ Lakeside Drive:
  - increase in delay by more than 5 seconds
  - significant impact
- Intersection #26) Eureka Way (SR 299)/Road B:
  - acceptable to unacceptable LOS
  - significant impact

The improvements recommended for all intersections that operate at unacceptable LOS under *Year 2030 No Project* conditions are sufficient to accommodate *Year 2030 Plus Project* conditions. Additionally improvements are recommended at the following intersections:

#1) Eureka Way (SR 299)/Lower Springs Rd. (Project Dwy): This Two-Way-Stop Controlled intersection is projected to operate at unacceptable LOS F under *Cumulative Term Plus Project* conditions. The intersection, which is also a project access location, is found meet the signal warrant criteria during the AM peak-hour. The addition of project traffic causes operations to drop from acceptable LOS B to unacceptable LOS F which is considered a significant impact.

The recommended improvement is to signalize the intersection following which operations would improve to acceptable LOS B.

#26) Eureka Way (SR 299)/Road B: This Two-Way-Stop Controlled project access intersection is projected to operate at unacceptable LOS F under *Year 2030 Plus Project* conditions. The intersection is found to meet the signal warrant criteria. Either of the following mitigation measures are applicable.

- Alternative 1: The intersection may be signalized following which operations improve to acceptable LOS B.
- Alternative 2: Re-directing project generated traffic by altering the project access restrictions at the two Eureka Way (SR 299) driveways to conform to the following:

  - Restrict this driveway (Intersection #26) to a right-in right-out + left-in driveway only. Therefore, southbound left-turns from the project site onto Eureka Way (SR 299) eastbound will be prohibited. With this alternative, it is expected that approximately 50% of the 197 AM peak-hour left-turns will be re-distributed to intersection #1) while the remaining 50% will be redistributed via Road O to intersection #27 (i.e. the Buenaventura Blvd extn./Project driveway) and eventually onto the Eureka Way (SR 299)/Buenaventura Blvd. intersection which is currently signalized. The improvements recommended earlier at intersection #2) will be sufficient to handle the additional trips due to the re-distribution. This improvement will result in acceptable LOS at this central project driveway.

  - Following the re-distribution, approximately 100 additional trips will now turn left out at intersection #1 (i.e. Eureka Way (SR 299)/Lower Springs Rd.) to proceed onto Eureka Way

(SR 299) eastbound.

The southbound approach at intersection #1 must be widened to accommodate two left-turn lanes, and one shared through right turn lane. Eastbound Eureka Way (SR 299) must be widened to accommodate for two receiving lanes from the dual left-turn lanes exiting the project. The second receiving lane may be tapered and terminated approximately 1,620 feet east of the intersection in accordance with Caltrans Highway Design Manual guidelines.

PEDESTRIAN FACILITIES

Short Term and Cumulative Conditions

- Provide City approved pedestrian facilities on-site and along project frontage on SR 299.
- With the exception of the pedestrian facility improvements associated with the previously identified intersection improvements, no improvements are recommended for off-site facilities.

BICYCLE FACILITIES

Short Term and Cumulative Conditions

- Provide City approved shoulder widths for on-site roadways
- No improvements are recommended for off-site facilities

TRANSIT FACILITIES

Short Term and Cumulative Conditions

- The RABA transit service should be expanded to serve the project
- RABA approved bus stops and shelters should be provided on-site pursuant to City standards.

FAIR-SHARE OF IMPROVEMENT COST CALCULATIONS

To provide for a conservative analysis, fair-share of improvement cost percentages have been calculated based upon the proposed project's PM peak-hour traffic impacts. Fair-share calculations have been identified for all intersections which are projected to operate at unacceptable LOS under no project conditions, and experience an increase in delay with the addition of project traffic. Below is a listing of each of the study intersections warranting improvements, the corresponding improvements that the proposed project would be required to pay a fair-share of improvement cost towards, and the proposed project's equitable share of these improvements. The proposed project's equitable share is calculated using the method for calculating equitable mitigation measures outlined in the *Caltrans Guide for the Preparation of Traffic Impact Studies* (State of California, DOT, June 2001), which is shown below:

$P = T/(T_B - T_E)$ where,

- P = The equitable share for the project's traffic impact
- T = The vehicle trips generated by the project during the peak-hour of adjacent State highway facility in vehicles per hour (vph).
- T_B = The forecasted traffic volume on an impacted State highway facility at the time of general plan build-out (e.g. 20 year model or the furthest future model date feasible), vph.
- T_E = The traffic volume existing on the impacted State highway facility plus other approved projects that will generate traffic that has yet to be constructed/opened, vph.

While this traffic analysis was performed assuming a conservative project build-out to include 500 d.u, the EIR prepared for the project and the most current version of the site plan indicate that the project on build-out would include 440 d.u. Therefore, the fair share calculations are computed based on the assumption that build-out of the project would include 440 d.u. For this purpose, the project only volumes and the Year 2030 Plus Project volume were computed with 440 d.u. Figure 13 shows the "Year 2030 Conditions Project Only" PM peak hour traffic volumes, while Figure 14 shows the Year 2030 Plus Project Conditions PM peak hour traffic assuming full build-out to include 440 d.u.

The percent fair-share calculations were only reported for intersections where the project impact was found to be significant either for Short Term or Year 2030 conditions. The percent fair-share calculated using the above formula is reported to the nearest whole number.

Intersection #1: Eureka Way (SR 299)/Lower Spring Rd./Project Dwy.
Fair-Share %: T= 197
T_E= 949
T_B= 1,342
P= **50%**

Intersection #2: Eureka Way (SR 299)/Buenaventura Blvd.
Fair-Share %: T= 354
T_E= 1,991
T_B= 3,382
P= **25%**

Intersection #3: Eureka Way (SR 299)/Sunset Dr.
Fair-Share %: T= 212
T_E= 1,735
T_B= 2,353
P= **34%**

Intersection #10: Eureka Way (SR 299)/Court St.
Fair-Share %: T= 128
T_E= 3,884
T_B= 2,762
P= **11%**

Intersection #11: Court St./11th St.
Fair-Share %: T= 20
T_E= 1,380
T_B= 1,454
P= **28%**

Intersection #13: Eureka Way (SR 299)/Market St. (SR 273)
Fair-Share %: T= 108
T_E= 3,422
T_B= 4,017
P= **18%**

Intersection #14: Shasta St./Court St.
Fair-Share %: T= 128
T_E= 3,056

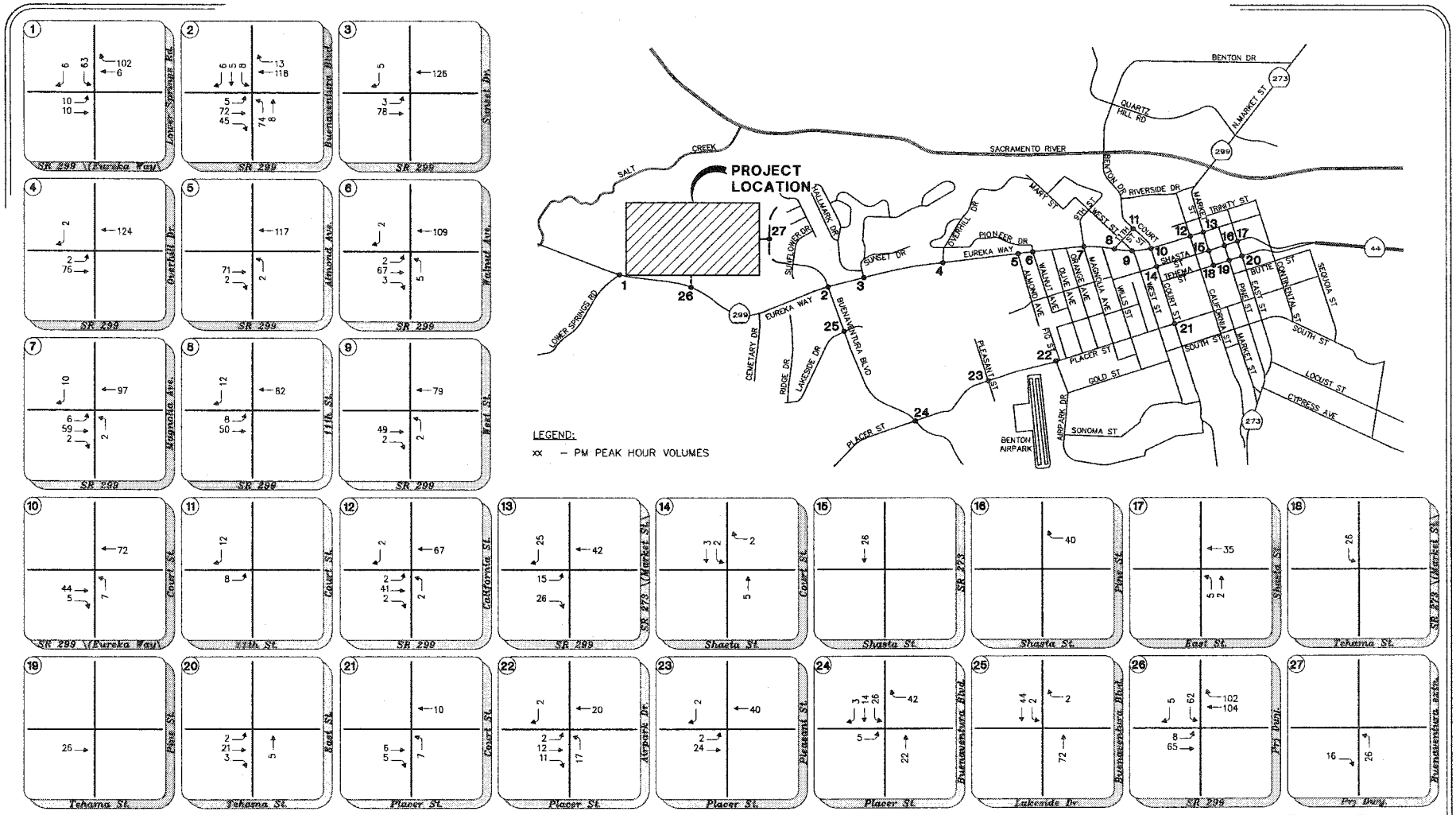
T_B= 2,155
P= **1%**

Intersection #21: Placer St./Court St.
Fair-Share %: T= 28
T_E= 2,890
T_B= 2,457
P= **6%**

Intersection #22: Placer St./Airpark Dr. (Fig Ave.)
Fair-Share %: T= 64
T_E= 2,233
T_B= 2,575
P= **19%**

Intersection #24: Placer St./Buenaventura Blvd.
Fair-Share %: T= 112
T_E= 2,618
T_B= 3,249
P= **18%**

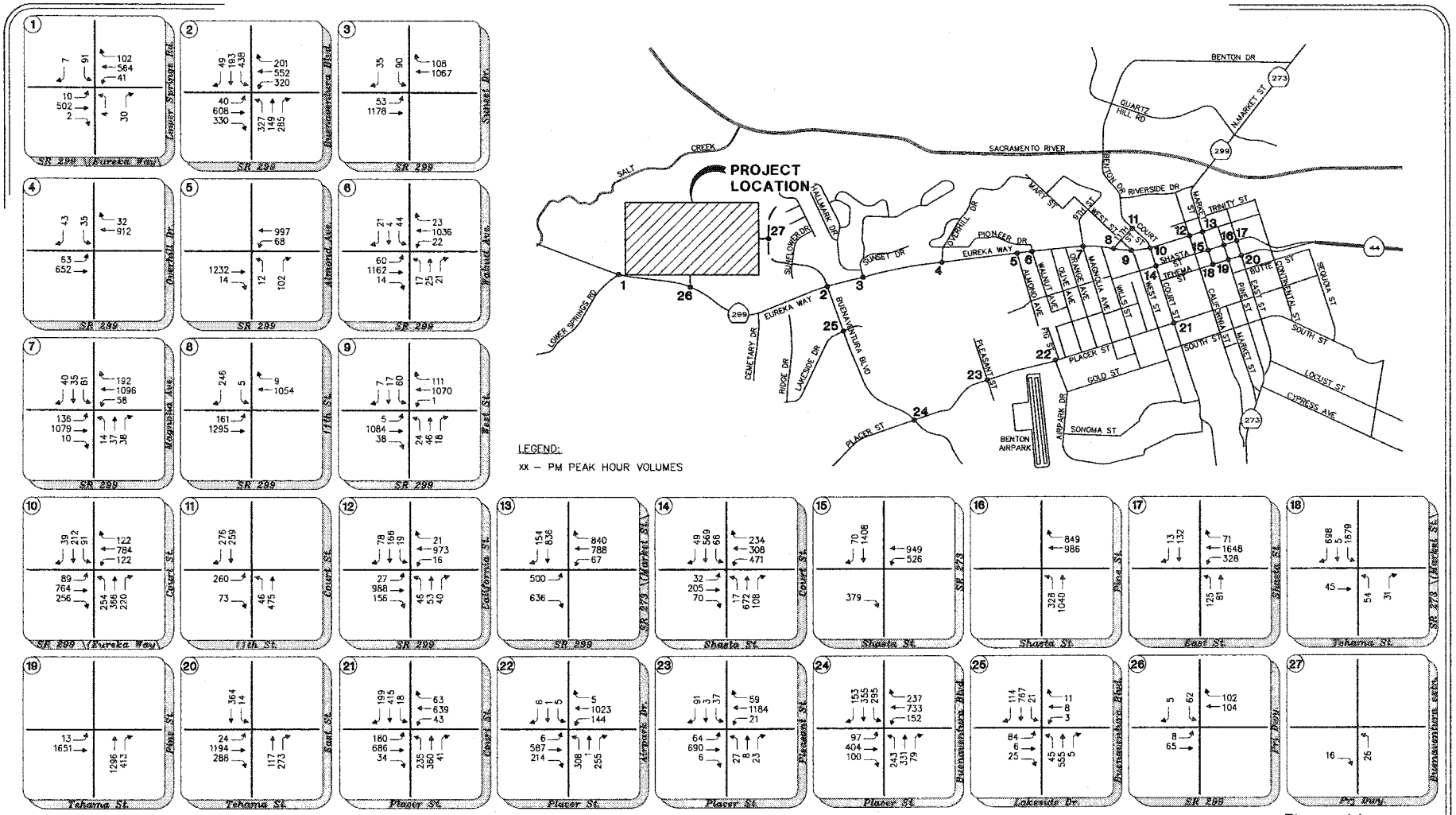
Intersection #25: Buenaventura Blvd./Lakeside Dr.
Fair-Share %: T= 120
T_E= 1,180
T_B= 1,722
P= **22%**



Salt Creek Residential Development - TIAR

Figure 13

Cumulative Conditions (Year 2030) Project Only PM Peak Hour Volumes Assuming Project Build-Out Includes 440 Dwelling Units



Salt Creek Residential Development - TIAR

Figure 14

Cumulative Conditions (Year 2030) Plus Project PM Peak Hour Volumes Assuming Project Build-Out Includes 440 Dwelling Units

Job No: 45-6550-02

MITIGATION TIMING FOR SELECTED INTERSECTIONS

The following methodology was utilized to determine the timing requirements for Short Term Improvements recommended within the study:

- Convert the project traffic to Equivalent Dwelling Units (EDU's)
- Straight-line interpolate between the short-term "no project" and "100% project build-out" to determine the EDU thresholds at which facilities would become significant

The following Tables (Table 9A and 9B) provides a comparison of intersection delay and LOS for intersection, which were found to be operating at unacceptable LOS under Short Term and Cumulative conditions respectively, and the number of EDU's that could be accommodated without project impact being significant per the 5-second threshold. The following intersections were included for threshold analysis based on direction provided by City staff:

- Intersection #1) Eureka Way (SR 299)/Lowe Springs Road/Project Driveway (Cumulative Conditions Only)
- Intersection #2) Eureka Way (SR 299)/Buenaventura Boulevard (Cumulative Conditions Only)
- Intersection #3) Eureka Way (SR 299)/Sunset Drive
- Intersection #11) Court Street/11th Street
- Intersection #22) Placer Street/Airpark Drive/Fig Avenue
- Intersection #25) Buena Ventura Boulevard/Lakeside Drive
- Intersection #26) Eureka Way (SR 299)/Road B (Cumulative Conditions Only)

TABLE 9A
COMPARISON OF INTERSECTION LEVELS OF SERVICE: SHORT TERM CONDITIONS

Intx #	Intx Name	Control type	AM peak hour						PM peak hour						Short-term Maximum allowable EDU's
			STNP		STPP		Maximum allowable delay	EDU's/du's which can be accomodated w/out improvements	STNP		STPP		Maximum allowable delay	EDU's/du's which can be accomodated w/out improvements	
			delay	d.u's	delay	d.u's			delay	d.u's	delay	d.u's			
3	Eureka Way (Sr 299)/Sunset Dr.	TWSC	67.7	0	94.8	281	72.7	51	91.5	0	153.5	281	96.5	22	22
11	Court St./11th St.	TWSC	265	0	281.5	281	270	85	201.4	0	216.6	281	206.4	92	85
22	Placer St./Airpark Dr./Fig Ave.	Signal	46.3	0	47.8	281	51.3	NA	74.9	0	80.2	281	79.9	265	265
25	Buenaventura Blvd./Lakeside Dr.	TWSC	172.4	0	233.4	281	177.4	23	41.8	0	55.4	281	46.8	103	23

TABLE 9B
COMPARISON OF INTERSECTION LEVELS OF SERVICE: CUMULATIVE CONDITIONS

Intx #	Intx Name	Control type	AM peak hour						PM peak hour						Cumulative Maximum allowable EDU's
			STPP		CPP		Maximum allowable delay	EDU's which can be accommodated until improvements	STPP		CPP		Maximum allowable delay	EDU's which can be accommodated until improvements	
			delay	d/c's	delay	d/c's			delay	d/c's	delay	d/c's			
1	Eureka Way (Sr 299)/Lower Springs Rd.	TWSC	32.3	281	75.9	500	35	294	30.1	281	72.4	500	35	306	294
2	Eureka Way (SR 299)/Buenaventura Blvd.	Signal	27.8	281	65.7	500	55	438	25.7	281	39.2	500	60	500	438
26	Eureka Way (SR 299)/Road B	TWSC	20.8	281	68.4	500	35	346	28.0	281	45.8	500	40	428	346

The Eureka Way/Lower Springs Road, Eureka Way (SR 299)/Buenaventura Boulevard and Eureka Way (SR 299)/Road B intersections are projected to operate at acceptable LOS C/D under *Short Term Plus Project* conditions. However, the intersections are projected to operate at unacceptable LOS F under *Cumulative Plus Project* conditions. The following methodology was used to identify the number of EDU's that could be accommodated beyond the Short Term Plus Project conditions after which the project impact would become significant.

- straight-line interpolation of delay between the *Short Term Plus Project* and *Cumulative Plus Project* conditions to determine the EDU thresholds at which facilities would become significant

Based on a straight-line interpolation of delay between the *Short Term Plus Project* and *Cumulative Plus Project* conditions, it is anticipated that 294, 438 and 346 EDU's could be accommodated before the project impacts would be significant per the 5-second threshold at the Eureka Way/Lower Springs Road, Eureka Way (SR 299)/Buenaventura Boulevard and Eureka Way (SR 299)/Road B intersections, respectively.

APPENDIX

INTERSECTION LEVEL OF SERVICE WORKSHEETS

WARRANT ANALYSIS WORKSHEETS

Intersection LOS Worksheets

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	408	4	20	233	3	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	443	4	22	253	3	72
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			453		752	456
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			453		752	456
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		99	88
cM capacity (veh/h)			1103		367	600

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	448	22	253	75
Volume Left	0	22	0	3
Volume Right	4	0	0	72
cSH	1700	1103	1700	584
Volume to Capacity	0.26	0.02	0.15	0.13
Queue Length 95th (ft)	0	2	0	11
Control Delay (s)	0.0	8.3	0.0	12.1
Lane LOS		A		B
Approach Delay (s)	0.0	0.7		12.1
Approach LOS				B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.91	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	0.98	0.98		1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.86	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1584	3539	1557	1593	3539	1540	1513	1429	1479		1793	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.96	
Satd. Flow (perm)	1584	3539	1557	1593	3539	1540	1513	1429	1479		1793	
Volume (vph)	3	380	142	216	163	21	98	14	583	71	24	1
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	413	154	235	177	23	107	15	634	77	26	1
RTOR Reduction (vph)	0	0	121	0	0	14	0	267	267	0	0	0
Lane Group Flow (vph)	3	413	33	235	177	9	107	65	50	0	104	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	0.5	11.6	11.6	10.6	21.7	21.7	8.4	8.4	8.4		7.0	
Effective Green, g (s)	0.5	11.6	11.6	10.6	21.7	21.7	8.4	8.4	8.4		7.0	
Actuated g/C Ratio	0.01	0.22	0.22	0.20	0.40	0.40	0.16	0.16	0.16		0.13	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	15	766	337	315	1433	623	237	224	232		234	
v/s Ratio Prot	0.00	c0.12		c0.15	0.05		0.07	c0.23			c0.06	
v/s Ratio Perm			0.10			0.01			0.21			
v/c Ratio	0.20	0.54	0.10	0.75	0.12	0.01	0.45	0.29	0.21		0.44	
Uniform Delay, d1	26.4	18.6	16.8	20.2	10.0	9.6	20.5	20.0	19.7		21.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	6.5	0.7	0.1	9.3	0.0	0.0	1.4	0.7	0.5		1.3	
Delay (s)	32.8	19.4	16.9	29.5	10.0	9.6	21.9	20.7	20.2		22.9	
Level of Service	C	B	B	C	B	A	C	C	C		C	
Approach Delay (s)		18.8			20.5			20.6			22.9	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	53.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	19	1023	517	48	132	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	1112	562	52	143	47
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		913				
pX, platoon unblocked						
vC, conflicting volume	619				1169	291
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	619				1169	291
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				21	93
cM capacity (veh/h)	953				181	700

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	21	556	556	281	281	52	190
Volume Left	21	0	0	0	0	0	143
Volume Right	0	0	0	0	0	52	47
cSH	953	1700	1700	1700	1700	1700	221
Volume to Capacity	0.02	0.33	0.33	0.17	0.17	0.03	0.86
Queue Length 95th (ft)	2	0	0	0	0	0	169
Control Delay (s)	8.9	0.0	0.0	0.0	0.0	0.0	75.5
Lane LOS	A						F
Approach Delay (s)	0.2			0.0			75.5
Approach LOS							F

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	273	819	448	31	29	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	297	890	487	34	32	65
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	526				1552	270
vC1, stage 1 conf vol					509	
vC2, stage 2 conf vol					1044	
vCu, unblocked vol	526				1552	270
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	71				81	91
cM capacity (veh/h)	1033				166	721

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	297	445	445	325	196	97
Volume Left	297	0	0	0	0	32
Volume Right	0	0	0	0	34	65
cSH	1033	1700	1700	1700	1700	346
Volume to Capacity	0.29	0.26	0.26	0.19	0.12	0.28
Queue Length 95th (ft)	30	0	0	0	0	28
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	19.4
Lane LOS	A					C
Approach Delay (s)	2.5			0.0		19.4
Approach LOS						C

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	850	33	118	685	17	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	924	36	128	745	18	99
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume			965		1581	490
vC1, stage 1 conf vol					947	
vC2, stage 2 conf vol					634	
vCu, unblocked vol			965		1581	490
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			82		91	81
cM capacity (veh/h)			700		202	517

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	616	344	128	372	372	117
Volume Left	0	0	128	0	0	18
Volume Right	0	36	0	0	0	99
cSH	1700	1700	700	1700	1700	415
Volume to Capacity	0.36	0.20	0.18	0.22	0.22	0.28
Queue Length 95th (ft)	0	0	17	0	0	29
Control Delay (s)	0.0	0.0	11.3	0.0	0.0	17.1
Lane LOS			B			C
Approach Delay (s)	0.0		1.7			17.1
Approach LOS						C

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (prot)	1593	3520		1593	3539	1539		1741		1513	1633	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (perm)	1593	3520		1593	3539	1539		1741		1513	1633	
Volume (vph)	58	929	29	21	628	317	17	44	37	247	45	66
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	1010	32	23	683	345	18	48	40	268	49	72
RTOR Reduction (vph)	0	2	0	0	0	203	0	28	0	0	22	0
Lane Group Flow (vph)	63	1040	0	23	683	142	0	78	0	183	184	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						
Actuated Green, G (s)	3.7	26.8		1.0	24.1	24.1		4.8		9.9	9.9	
Effective Green, g (s)	3.7	26.8		1.0	24.1	24.1		4.8		9.9	9.9	
Actuated g/C Ratio	0.06	0.46		0.02	0.41	0.41		0.08		0.17	0.17	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	101	1613		27	1458	634		143		256	276	
v/s Ratio Prot	c0.04	c0.30		0.01	0.19			c0.06		0.12	c0.13	
v/s Ratio Perm						0.22						
v/c Ratio	0.62	0.64		0.85	0.47	0.22		0.55		0.71	0.67	
Uniform Delay, d1	26.7	12.2		28.7	12.5	11.1		25.8		23.0	22.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	11.4	0.9		110.0	0.2	0.2		4.3		9.1	5.9	
Delay (s)	38.1	13.1		138.6	12.8	11.3		30.1		32.1	28.7	
Level of Service	D	B		F	B	B		C		C	C	
Approach Delay (s)		14.5			15.1			30.1			30.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	58.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.96			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.96	1.00
Satd. Flow (prot)	1593	3534		1593	3386			1851	1554		1797	1554
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00		0.96	1.00
Satd. Flow (perm)	1593	3534		1593	3386			1851	1554		1797	1554
Volume (vph)	99	1169	10	70	864	277	12	86	39	134	48	42
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	1271	11	76	939	301	13	93	42	146	52	46
RTOR Reduction (vph)	0	1	0	0	32	0	0	0	37	0	0	40
Lane Group Flow (vph)	108	1281	0	76	1208	0	0	106	5	0	198	6
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	8.3	33.2		5.9	30.8			7.9	7.9		10.0	10.0
Effective Green, g (s)	8.3	33.2		5.9	30.8			7.9	7.9		10.0	10.0
Actuated g/C Ratio	0.11	0.45		0.08	0.42			0.11	0.11		0.14	0.14
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	181	1607		129	1429			200	168		246	213
v/s Ratio Prot	c0.07	0.36		0.05	c0.37			c0.06			c0.11	
v/s Ratio Perm									0.03			0.03
v/c Ratio	0.60	0.80		0.59	0.85			0.53	0.03		0.80	0.03
Uniform Delay, d1	30.8	17.0		32.4	19.0			30.8	29.1		30.6	27.3
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	5.2	2.8		6.7	4.8			2.7	0.1		17.2	0.1
Delay (s)	36.0	19.9		39.1	23.8			33.5	29.2		47.7	27.4
Level of Service	D	B		D	C			C	C		D	C
Approach Delay (s)		21.1			24.6			32.3			43.9	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	73.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	122	1193	700	18	8	252
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	133	1297	761	20	9	274
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)		771	933			
pX, platoon unblocked						
vC, conflicting volume	785				1694	400
vC1, stage 1 conf vol					776	
vC2, stage 2 conf vol					919	
vCu, unblocked vol	785				1694	400
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	84				95	54
cM capacity (veh/h)	826				187	594

Direction, Lane #	EB 1	EB 2	EB 3	WB	WB 2	SB 1
Volume Total	133	648	648	507	273	283
Volume Left	133	0	0	0	0	9
Volume Right	0	0	0	0	20	274
cSH	826	1700	1700	1700	1700	557
Volume to Capacity	0.16	0.38	0.38	0.30	0.16	0.51
Queue Length 95th (ft)	14	0	0	0	0	71
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	17.9
Lane LOS	B					C
Approach Delay (s)	0.9			0.0		17.9
Approach LOS						C

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	1188	2	5	1109	147	5	2	6	27	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	1291	2	5	1205	160	5	2	7	29	0	2
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1263			441							
pX, platoon unblocked												
vC, conflicting volume	1370			1298			1925	2685	657	1966	2606	693
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1370			1298			1925	2685	657	1966	2606	693
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			86	90	98	11	100	99
cM capacity (veh/h)	495			527			39	21	404	33	24	383

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	3	861	433	5	804	562	14	32
Volume Left	3	0	0	5	0	0	5	29
Volume Right	0	0	2	0	0	160	7	2
cSH	495	1700	1700	527	1700	1700	55	35
Volume to Capacity	0.01	0.51	0.25	0.01	0.47	0.33	0.26	0.89
Queue Length 95th (ft)	0	0	0	1	0	0	22	80
Control Delay (s)	12.3	0.0	0.0	11.9	0.0	0.0	92.7	287.1
Lane LOS	B			B			F	F
Approach Delay (s)	0.0			0.0			92.7	287.1
Approach LOS							F	F

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3539	1556	1593	3481		1593	1863	1557	1593	1828	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1593	3539	1556	1593	3481		1593	1863	1557	1593	1828	
Volume (vph)	105	953	174	105	902	91	344	304	53	175	308	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	1036	189	114	980	99	374	330	58	190	335	43
RTOR Reduction (vph)	0	0	62	0	8	0	0	0	44	0	6	0
Lane Group Flow (vph)	114	1036	127	114	1071	0	374	330	14	190	372	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	16.6	33.2	33.2	16.6	33.2		4.5	23.2	23.2	4.0	23.2	
Effective Green, g (s)	16.1	33.7	33.7	16.1	33.7		4.0	23.2	23.2	4.0	23.2	
Actuated g/C Ratio	0.17	0.36	0.36	0.17	0.36		0.04	0.25	0.25	0.04	0.25	
Clearance Time (s)	3.5	4.5	4.5	3.5	4.5		3.5	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	276	1282	564	276	1261		69	465	388	69	456	
v/s Ratio Prot	c0.07	0.29		0.07	c0.31		c0.23	0.18		0.12	c0.21	
v/s Ratio Perm			0.12						0.04			
v/c Ratio	0.41	0.81	0.23	0.41	0.85		5.42	0.71	0.04	2.75	0.82	
Uniform Delay, d1	34.2	26.7	20.6	34.2	27.3		44.5	31.8	26.4	44.5	32.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	5.6	0.9	1.0	7.3		2020.6	4.9	0.0	828.2	10.8	
Delay (s)	35.2	32.3	21.5	35.2	34.6		2065.1	36.8	26.5	872.7	43.7	
Level of Service	D	C	C	D	C		F	D	C	F	D	
Approach Delay (s)		31.0			34.7			1031.5			321.0	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM Average Control Delay	272.2	HCM Level of Service	F
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	244	132	47	268	323	464
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	265	143	51	291	351	504
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				713	990	
pX, platoon unblocked	0.67	0.67	0.67			
vC, conflicting volume	1007	613	860			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1010	419	790			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	66	91			
cM capacity (veh/h)	159	419	550			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	409	51	291	855
Volume Left	265	51	0	0
Volume Right	143	0	0	504
cSH	204	550	1700	1700
Volume to Capacity	2.01	0.09	0.17	0.50
Queue Length 95th (ft)	766	8	0	0
Control Delay (s)	509.2	12.2	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	509.2	1.8		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	129.9		
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.96			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1593	3539	1555	1593	3527			3283			3324	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.97			1.00	
Satd. Flow (perm)	1593	3539	1555	1593	3527			3283			3324	
Volume (vph)	21	1048	127	17	926	19	43	16	21	7	72	42
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	1139	138	18	1007	21	47	17	23	8	78	46
RTOR Reduction (vph)	0	0	31	0	1	0	0	21	0	0	41	0
Lane Group Flow (vph)	23	1139	107	18	1027	0	0	66	0	0	91	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2									
Actuated Green, G (s)	2.4	56.9	56.9	2.4	56.9			8.9			11.3	
Effective Green, g (s)	2.4	57.4	57.4	2.4	57.4			8.9			11.3	
Actuated g/C Ratio	0.02	0.60	0.60	0.02	0.60			0.09			0.12	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5			4.0			4.0	
Vehicle Extension (s)	2.5	5.0	5.0	2.5	5.0			3.0			3.0	
Lane Grp Cap (vph)	40	2116	930	40	2109			304			391	
v/s Ratio Prot	c0.01	c0.32		0.01	0.29			c0.03			c0.04	
v/s Ratio Perm			0.09									
v/c Ratio	0.57	0.54	0.12	0.45	0.49			0.22			0.23	
Uniform Delay, d1	46.3	11.4	8.3	46.1	10.9			40.3			38.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	15.3	1.0	0.3	5.8	0.8			0.4			0.3	
Delay (s)	61.6	12.4	8.6	51.9	11.8			40.7			38.7	
Level of Service	E	B	A	D	B			D			D	
Approach Delay (s)		12.9			12.4			40.7			38.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00		0.88	0.91	0.91	0.88					0.95	1.00
Frpb, ped/bikes	1.00		0.98	1.00	1.00	0.97					1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85					1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (prot)	1593		2735	1449	3390	2711					3539	1558
Flt Permitted	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (perm)	1593		2735	1449	3390	2711					3539	1558
Volume (vph)	295	0	747	28	720	420	0	0	0	0	677	239
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	321	0	812	30	783	457	0	0	0	0	736	260
RTOR Reduction (vph)	0	0	631	21	0	319	0	0	0	0	0	176
Lane Group Flow (vph)	321	0	181	9	783	138	0	0	0	0	736	85
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		custom	Split		Perm						Perm
Protected Phases	2			8	8						1	
Permitted Phases			2			8						1
Actuated Green, G (s)	17.8		17.8	24.2	24.2	24.2					26.0	26.0
Effective Green, g (s)	17.8		17.8	24.2	24.2	24.2					26.0	26.0
Actuated g/C Ratio	0.22		0.22	0.30	0.30	0.30					0.32	0.32
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0					5.0	5.0
Lane Grp Cap (vph)	354		609	438	1025	820					1150	506
v/s Ratio Prot	0.20			0.02	c0.23						c0.21	
v/s Ratio Perm			0.30			0.17						0.17
v/c Ratio	0.91		0.30	0.02	0.76	0.17					0.64	0.17
Uniform Delay, d1	30.3		25.9	19.6	25.3	20.5					23.0	19.3
Progression Factor	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Incremental Delay, d2	29.2		1.2	0.0	3.4	0.1					1.7	0.3
Delay (s)	59.5		27.1	19.6	28.7	20.6					24.7	19.6
Level of Service	E		C	B	C	C					C	B
Approach Delay (s)		36.3			25.6			0.0			23.4	
Approach LOS		D			C			A			C	

Intersection Summary			
HCM Average Control Delay	28.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.98		1.00	0.99	
Flt Protected		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3417			3355		1587	3469		1593	3514	
Flt Permitted		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3417			3355		1587	3469		1593	3514	
Volume (vph)	15	113	28	414	323	144	12	269	33	37	505	22
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	123	30	450	351	157	13	292	36	40	549	24
RTOR Reduction (vph)	0	22	0	0	17	0	0	10	0	0	3	0
Lane Group Flow (vph)	0	147	0	0	941	0	13	318	0	40	570	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		9.3			25.5		0.7	26.0		4.9	30.2	
Effective Green, g (s)		9.3			25.5		0.7	26.0		4.9	30.2	
Actuated g/C Ratio		0.11			0.31		0.01	0.32		0.06	0.37	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		389			1047		14	1104		96	1299	
v/s Ratio Prot		c0.05			c0.29		0.01	0.09		c0.03	c0.16	
v/s Ratio Perm												
v/c Ratio		0.38			0.90		0.93	0.29		0.42	0.44	
Uniform Delay, d1		33.5			26.9		40.5	20.9		37.0	19.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			10.2		201.0	0.7		2.9	1.1	
Delay (s)		34.1			37.1		241.4	21.6		39.9	20.5	
Level of Service		C			D		F	C		D	C	
Approach Delay (s)		34.1			37.1			29.9			21.7	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	81.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
15: Shasta St. & Market St.(SR 273)

AM peak hour conditions
Existing Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0						4.0	
Lane Util. Factor			0.88	0.97	0.95						0.91	
Frpb, ped/bikes			1.00	1.00	1.00						1.00	
Flpb, ped/bikes			1.00	1.00	1.00						1.00	
Frt			0.85	1.00	1.00						1.00	
Flt Protected			1.00	0.95	1.00						1.00	
Satd. Flow (prot)			2787	3433	3539						5068	
Flt Permitted			1.00	0.95	1.00						1.00	
Satd. Flow (perm)			2787	3433	3539						5068	
Volume (vph)	0	0	132	371	772	0	0	0	0	0	1294	28
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	143	403	839	0	0	0	0	0	1407	30
RTOR Reduction (vph)	0	0	95	102	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	48	301	839	0	0	0	0	0	1434	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type			custom	Split								
Protected Phases			7	8	8						6	
Permitted Phases												
Actuated Green, G (s)			15.1	21.5	21.5						30.9	
Effective Green, g (s)			15.1	21.5	21.5						31.4	
Actuated g/C Ratio			0.19	0.27	0.27						0.39	
Clearance Time (s)			4.0	4.0	4.0						4.5	
Vehicle Extension (s)			3.0	3.0	3.0						5.0	
Lane Grp Cap (vph)			526	923	951						1989	
v/s Ratio Prot			c0.05	0.12	c0.24						c0.28	
v/s Ratio Perm												
v/c Ratio			0.09	0.33	0.88						0.72	
Uniform Delay, d1			26.8	23.4	28.0						20.6	
Progression Factor			1.00	1.00	1.00						0.90	
Incremental Delay, d2			0.3	0.2	9.7						1.3	
Delay (s)			27.1	23.7	37.7						19.7	
Level of Service			C	C	D						B	
Approach Delay (s)		27.1			33.2			0.0			19.7	
Approach LOS		C			C			A			B	

Intersection Summary				
HCM Average Control Delay	26.0	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	53.6%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Salt Creek Heights
16: Shasta St. & Pine St.(SR273 NB)

AM peak hour conditions
Existing Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0				
Lane Util. Factor					0.86	0.86		0.91				
Frpb, ped/bikes					1.00	0.98		1.00				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					1.00	0.85		1.00				
Flt Protected					1.00	1.00		0.99				
Satd. Flow (prot)					4806	1334		5051				
Flt Permitted					1.00	1.00		0.99				
Satd. Flow (perm)					4806	1334		5051				
Volume (vph)	0	0	0	0	1060	454	114	721	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	1152	493	124	784	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	192	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1152	301	0	908	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type						Perm	Split					
Protected Phases					8		2	2			6	
Permitted Phases						8						
Actuated Green, G (s)					48.8	48.8		26.0				
Effective Green, g (s)					48.8	48.8		26.0				
Actuated g/C Ratio					0.54	0.54		0.29				
Clearance Time (s)					4.0	4.0		4.0				
Vehicle Extension (s)					3.0	3.0		5.0				
Lane Grp Cap (vph)					2606	723		1459				
v/s Ratio Prot					0.24			c0.18				
v/s Ratio Perm						0.37						
v/c Ratio					0.44	0.42		0.62				
Uniform Delay, d1					12.4	12.2		27.7				
Progression Factor					1.00	1.00		1.00				
Incremental Delay, d2					0.5	1.8		1.2				
Delay (s)					12.9	13.9		28.9				
Level of Service					B	B		C				
Approach Delay (s)		0.0			13.2			28.9			0.0	
Approach LOS		A			B			C			A	

Intersection Summary				
HCM Average Control Delay	18.8	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.2	
Intersection Capacity Utilization	46.8%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1710	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0			4.0	
Lane Util. Factor					0.86		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			0.99	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					1.00		1.00	1.00			0.92	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					6351		1593	3539			3242	
Flt Permitted					0.99		0.95	1.00			1.00	
Satd. Flow (perm)					6351		1593	3539			3242	
Volume (vph)	0	0	0	225	1450	24	44	38	0	0	33	34
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	245	1576	26	48	41	0	0	36	37
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	32	0
Lane Group Flow (vph)	0	0	0	0	1846	0	48	41	0	0	41	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split			Prot					
Protected Phases				6	6		3	8			4	
Permitted Phases												
Actuated Green, G (s)					56.5		3.2	15.5			8.3	
Effective Green, g (s)					56.5		3.2	15.5			8.3	
Actuated g/C Ratio					0.71		0.04	0.19			0.10	
Clearance Time (s)					4.0		4.0	4.0			4.0	
Vehicle Extension (s)					5.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					4485		64	686			336	
v/s Ratio Prot					c0.29		c0.03	0.01			c0.02	
v/s Ratio Perm												
v/c Ratio					0.41		0.75	0.06			0.12	
Uniform Delay, d1					4.9		38.0	26.3			32.5	
Progression Factor					1.00		1.03	1.45			1.00	
Incremental Delay, d2					0.3		37.8	0.0			0.2	
Delay (s)					5.1		76.9	38.1			32.7	
Level of Service					A		E	D			C	
Approach Delay (s)		0.0			5.1			59.0			32.7	
Approach LOS		A			A			E			C	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)										4.0	4.0	
Lane Util. Factor										0.97	1.00	
Frpb, ped/bikes										1.00	0.97	
Flpb, ped/bikes										1.00	1.00	
Frt										1.00	0.85	
Flt Protected										0.95	1.00	
Satd. Flow (prot)										3433	1532	
Flt Permitted										0.95	1.00	
Satd. Flow (perm)										3433	1532	
Volume (vph)	0	0	0	0	0	0	0	0	0	1079	0	724
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	1173	0	787
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	166	111	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	1007	676	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Turn Type										Split		
Protected Phases										2	2	
Permitted Phases												
Actuated Green, G (s)										68.7	68.7	
Effective Green, g (s)										68.7	68.7	
Actuated g/C Ratio										0.86	0.86	
Clearance Time (s)										4.0	4.0	
Vehicle Extension (s)										5.0	5.0	
Lane Grp Cap (vph)										2948	1316	
v/s Ratio Prot										0.34	c0.51	
v/s Ratio Perm												
v/c Ratio										0.34	0.51	
Uniform Delay, d1										1.1	1.4	
Progression Factor										0.47	1.00	
Incremental Delay, d2										0.1	0.6	
Delay (s)										0.7	2.0	
Level of Service										A	A	
Approach Delay (s)		0.0			0.0			0.0			1.2	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	1.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0			
Lane Util. Factor		0.91						0.86	0.86			
Frpb, ped/bikes		1.00						1.00	0.98			
Flpb, ped/bikes		1.00						1.00	1.00			
Frt		1.00						1.00	0.85			
Flt Protected		1.00						1.00	1.00			
Satd. Flow (prot)		5079						4806	1335			
Flt Permitted		1.00						1.00	1.00			
Satd. Flow (perm)		5079						4806	1335			
Volume (vph)	28	1064	0	0	0	0	0	774	162	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	1157	0	0	0	0	0	841	176	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	14	0	0	0
Lane Group Flow (vph)	0	1187	0	0	0	0	0	841	162	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm			
Protected Phases	4	4						2			6	
Permitted Phases									2			
Actuated Green, G (s)		34.0						38.0	38.0			
Effective Green, g (s)		34.0						38.0	38.0			
Actuated g/C Ratio		0.42						0.48	0.48			
Clearance Time (s)		4.0						4.0	4.0			
Vehicle Extension (s)		3.0						5.0	5.0			
Lane Grp Cap (vph)		2159						2283	634			
v/s Ratio Prot		c0.23						c0.17				
v/s Ratio Perm									0.13			
v/c Ratio		0.55						0.37	0.26			
Uniform Delay, d1		17.3						13.4	12.6			
Progression Factor		0.37						0.96	0.98			
Incremental Delay, d2		1.0						0.4	0.9			
Delay (s)		7.3						13.2	13.1			
Level of Service		A						B	B			
Approach Delay (s)		7.3			0.0			13.2			0.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1710	1900	1900
Total Lost time (s)		4.0						4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91						0.91	0.91	1.00	0.95	
Frpb, ped/bikes		1.00						0.99	0.98	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	1.00	1.00	
Frt		0.98						0.90	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		4957						3012	1416	1593	3539	
Flt Permitted		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (perm)		4957						3012	1416	1593	3539	
Volume (vph)	19	1068	188	0	0	0	0	61	250	14	245	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	1161	204	0	0	0	0	66	272	15	266	0
RTOR Reduction (vph)	0	18	0	0	0	0	0	103	103	0	0	0
Lane Group Flow (vph)	0	1368	0	0	0	0	0	99	33	15	266	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm	Prot		
Protected Phases	2	2						8		7	4	
Permitted Phases									8			
Actuated Green, G (s)		57.3						9.7	9.7	1.0	14.7	
Effective Green, g (s)		57.3						9.7	9.7	1.0	14.7	
Actuated g/C Ratio		0.72						0.12	0.12	0.01	0.18	
Clearance Time (s)		4.0						4.0	4.0	4.0	4.0	
Vehicle Extension (s)		5.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		3550						365	172	20	650	
v/s Ratio Prot		c0.28						0.07		0.01	c0.08	
v/s Ratio Perm									0.10			
v/c Ratio		0.39						0.27	0.19	0.75	0.41	
Uniform Delay, d1		4.4						31.9	31.6	39.4	28.8	
Progression Factor		2.52						1.00	1.00	1.17	1.36	
Incremental Delay, d2		0.3						0.4	0.5	88.0	0.4	
Delay (s)		11.5						32.3	32.2	133.8	39.5	
Level of Service		B						C	C	F	D	
Approach Delay (s)		11.5			0.0			32.3			44.5	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3489		1593	3513		1593	3458		1593	3352	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3489		1593	3513		1593	3458		1593	3352	
Volume (vph)	61	621	57	27	543	25	135	269	42	52	372	170
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	675	62	29	590	27	147	292	46	57	404	185
RTOR Reduction (vph)	0	8	0	0	4	0	0	12	0	0	50	0
Lane Group Flow (vph)	66	729	0	29	613	0	147	326	0	57	539	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.3	22.1		2.6	19.4		9.7	31.3		3.0	24.6	
Effective Green, g (s)	5.3	22.1		2.6	19.4		9.7	31.3		3.0	24.6	
Actuated g/C Ratio	0.07	0.29		0.03	0.26		0.13	0.42		0.04	0.33	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	113	1028		55	909		206	1443		64	1099	
v/s Ratio Prot	c0.04	c0.21		0.02	0.18		c0.09	0.10		0.04	c0.18	
v/s Ratio Perm												
v/c Ratio	0.58	0.71		0.53	0.67		0.71	0.23		0.89	0.49	
Uniform Delay, d1	33.8	23.6		35.6	25.0		31.3	14.1		35.8	20.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.5	2.3		8.8	2.0		11.1	0.4		74.9	1.6	
Delay (s)	41.3	25.8		44.4	27.0		42.4	14.4		110.7	21.8	
Level of Service	D	C		D	C		D	B		F	C	
Approach Delay (s)		27.1			27.7			22.9			29.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.95		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		0.99		1.00	1.00			0.99			0.99	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.96		1.00	1.00			0.92			0.92	
Flt Protected		1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)		3345		1577	1844			1652			1643	
Flt Permitted		1.00		0.95	1.00			0.98			0.98	
Satd. Flow (perm)		3345		1577	1844			1652			1643	
Volume (vph)	0	751	255	222	267	1	89	1	113	2	0	3
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	816	277	241	290	1	97	1	123	2	0	3
RTOR Reduction (vph)	0	33	0	0	0	0	0	52	0	0	3	0
Lane Group Flow (vph)	0	1060	0	241	291	0	0	169	0	0	2	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)		28.6		14.3	46.9			11.3			2.5	
Effective Green, g (s)		28.6		14.3	46.9			11.3			2.5	
Actuated g/C Ratio		0.39		0.20	0.65			0.16			0.03	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1316		310	1190			257			56	
v/s Ratio Prot		c0.33		c0.15	0.16			c0.13			c0.00	
v/s Ratio Perm												
v/c Ratio		0.81		0.78	0.24			0.66			0.04	
Uniform Delay, d1		19.6		27.7	5.4			28.9			33.9	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		3.7		11.6	0.1			6.0			0.3	
Delay (s)		23.3		39.3	5.5			34.9			34.2	
Level of Service		C		D	A			C			C	
Approach Delay (s)		23.3			20.8			34.9			34.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	72.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1844		1573	1786		1562	1551		1577	1533	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1844		1573	1786		1562	1551		1577	1533	
Volume (vph)	94	892	3	12	256	55	4	1	21	140	4	78
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	102	970	3	13	278	60	4	1	23	152	4	85
RTOR Reduction (vph)	0	0	0	0	7	0	0	22	0	0	71	0
Lane Group Flow (vph)	102	973	0	13	331	0	4	2	0	152	18	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.0	45.8		0.6	38.4		0.6	4.4		8.2	12.0	
Effective Green, g (s)	8.0	45.8		0.6	38.4		0.6	4.4		8.2	12.0	
Actuated g/C Ratio	0.11	0.61		0.01	0.51		0.01	0.06		0.11	0.16	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	168	1126		13	914		12	91		172	245	
v/s Ratio Prot	c0.06	c0.53		0.01	0.19		0.00	0.02		c0.10	c0.06	
v/s Ratio Perm												
v/c Ratio	0.61	0.86		1.00	0.36		0.33	0.03		0.88	0.07	
Uniform Delay, d1	32.0	12.0		37.2	11.0		37.0	33.3		32.9	26.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.1	7.1		249.6	0.2		15.7	0.1		37.5	0.1	
Delay (s)	38.1	19.1		286.8	11.2		52.7	33.4		70.4	26.9	
Level of Service	D	B		F	B		D	C		E	C	
Approach Delay (s)		20.9			21.4			36.2			54.3	
Approach LOS		C			C			D			D	

Intersection Summary				
HCM Average Control Delay	26.0	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	75.7%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3539	1537	1593	1863	1537	1593	1863	1556	1593	3380	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1593	3539	1537	1593	1863	1537	1593	1863	1556	1593	3380	
Volume (vph)	180	629	132	117	216	67	123	298	137	148	210	71
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	684	143	127	235	73	134	324	149	161	228	77
RTOR Reduction (vph)	0	0	62	0	0	59	0	0	116	0	39	0
Lane Group Flow (vph)	196	684	81	127	235	14	134	324	33	161	266	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	10.2	13.9	13.9	7.4	11.1	11.1	8.1	13.2	13.2	8.8	13.9	
Effective Green, g (s)	10.2	13.9	13.9	7.4	11.1	11.1	8.1	13.2	13.2	8.8	13.9	
Actuated g/C Ratio	0.17	0.23	0.23	0.12	0.19	0.19	0.14	0.22	0.22	0.15	0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	274	830	360	199	349	288	218	415	346	236	792	
v/s Ratio Prot	c0.12	c0.19		0.08	0.13		0.08	c0.17		c0.10	0.09	
v/s Ratio Perm			0.09			0.05			0.10			
v/c Ratio	0.72	0.82	0.22	0.64	0.67	0.05	0.61	0.78	0.10	0.68	0.34	
Uniform Delay, d1	23.2	21.5	18.3	24.7	22.4	19.8	24.1	21.7	18.3	23.9	18.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.6	6.7	0.3	6.6	5.1	0.1	5.1	9.2	0.1	7.9	0.3	
Delay (s)	31.8	28.2	18.7	31.2	27.5	19.8	29.2	30.9	18.4	31.8	19.1	
Level of Service	C	C	B	C	C	B	C	C	B	C	B	
Approach Delay (s)		27.6			27.3			27.5			23.5	
Approach LOS		C			C			C			C	

Intersection Summary				
HCM Average Control Delay	26.7	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	59.3	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	62.7%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	158	22	28	4	3	7	10	509	8	7	324	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	172	24	30	4	3	8	11	553	9	8	352	30
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	962	961	362	995	983	563	388			567		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	962	961	362	995	983	563	388			567		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	23	90	95	98	99	99	99			99		
cM capacity (veh/h)	223	249	675	192	242	519	1161			996		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	226	15	11	553	9	8	352	30
Volume Left	172	4	11	0	0	8	0	0
Volume Right	30	8	0	0	9	0	0	30
cSH	248	299	1161	1700	1700	996	1700	1700
Volume to Capacity	0.91	0.05	0.01	0.33	0.01	0.01	0.21	0.02
Queue Length 95th (ft)	199	4	1	0	0	1	0	0
Control Delay (s)	79.6	17.7	8.1	0.0	0.0	8.6	0.0	0.0
Lane LOS	F	C	A			A		
Approach Delay (s)	79.6	17.7	0.2			0.2		
Approach LOS	F	C						

Intersection Summary				
Average Delay	15.3			
Intersection Capacity Utilization	51.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3500			3522	1770	1559
Flt Permitted	1.00			0.88	0.95	1.00
Satd. Flow (perm)	3500			3108	1770	1559
Volume (vph)	509	34	37	362	43	17
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	553	37	40	393	47	18
RTOR Reduction (vph)	12	0	0	0	0	11
Lane Group Flow (vph)	578	0	0	433	47	7
Confl. Peds. (#/hr)		5	5		5	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type			Perm			Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	16.0			16.0	16.0	16.0
Effective Green, g (s)	16.0			16.0	16.0	16.0
Actuated g/C Ratio	0.40			0.40	0.40	0.40
Clearance Time (s)	4.0			4.0	4.0	4.0
Lane Grp Cap (vph)	1400			1243	708	624
v/s Ratio Prot	c0.17				c0.03	
v/s Ratio Perm				0.14		0.01
v/c Ratio	0.41			0.35	0.07	0.01
Uniform Delay, d1	8.6			8.4	7.4	7.2
Progression Factor	0.82			0.80	1.00	1.00
Incremental Delay, d2	0.8			0.8	0.2	0.0
Delay (s)	7.9			7.5	7.6	7.3
Level of Service	A			A	A	A
Approach Delay (s)	7.9			7.5	7.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0					4.0	4.0	4.0
Lane Util. Factor		0.95			0.95					1.00	0.91	1.00
Frpb, ped/bikes		1.00			1.00					1.00	1.00	0.98
Flpb, ped/bikes		1.00			1.00					1.00	1.00	1.00
Frt		0.97			1.00					1.00	1.00	0.85
Flt Protected		1.00			1.00					0.95	1.00	1.00
Satd. Flow (prot)		3420			3529					1763	5085	1559
Flt Permitted		1.00			0.89					0.95	1.00	1.00
Satd. Flow (perm)		3420			3161					1763	5085	1559
Volume (vph)	0	590	151	27	440	0	0	0	0	69	638	104
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	641	164	29	478	0	0	0	0	75	693	113
RTOR Reduction (vph)	0	57	0	0	0	0	0	0	0	0	0	68
Lane Group Flow (vph)	0	748	0	0	507	0	0	0	0	75	693	45
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Perm						Perm		Perm
Protected Phases		4			8						6	
Permitted Phases				8						6		6
Actuated Green, G (s)		16.0			16.0					16.0	16.0	16.0
Effective Green, g (s)		16.0			16.0					16.0	16.0	16.0
Actuated g/C Ratio		0.40			0.40					0.40	0.40	0.40
Clearance Time (s)		4.0			4.0					4.0	4.0	4.0
Lane Grp Cap (vph)		1368			1264					705	2034	624
v/s Ratio Prot		c0.24									c0.14	
v/s Ratio Perm					0.16					0.04		0.07
v/c Ratio		0.55			0.40					0.11	0.34	0.07
Uniform Delay, d1		9.2			8.6					7.5	8.3	7.4
Progression Factor		1.00			1.00					1.00	1.00	1.00
Incremental Delay, d2		1.6			0.9					0.3	0.5	0.2
Delay (s)		10.8			9.5					7.8	8.8	7.6
Level of Service		B			A					A	A	A
Approach Delay (s)		10.8			9.5			0.0			8.6	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM Average Control Delay	9.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frpb, ped/bikes						
Flpb, ped/bikes						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Volume (vph)	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Confl. Peds. (#/hr)		5	5		5	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type						
Protected Phases						
Permitted Phases						
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0			0.0	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	8.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.95	0.95			1.00		1.00	0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00	1.00			0.98		1.00	1.00	0.97		1.00	0.97
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98			0.86		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	0.96			1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1681	1656			1583		1767	3539	1537		3539	1537
Flt Permitted	0.95	0.96			1.00		0.25	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1681	1656			1583		465	3539	1537		3539	1537
Volume (vph)	311	0	20	0	0	3	20	631	1	0	938	414
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	338	0	22	0	0	3	22	686	1	0	1020	450
RTOR Reduction (vph)	0	9	0	0	2	0	0	0	1	0	0	330
Lane Group Flow (vph)	191	160	0	0	1	0	22	686	0	0	1020	120
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Perm			Perm		Perm	Perm		Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2		2	6		6
Actuated Green, G (s)	16.0	16.0			16.0		16.0	16.0	16.0		16.0	16.0
Effective Green, g (s)	16.0	16.0			16.0		16.0	16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.27	0.27			0.27		0.27	0.27	0.27		0.27	0.27
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	448	442			422		124	944	410		944	410
v/s Ratio Prot	c0.11	0.10			c0.00			0.19			0.29	
v/s Ratio Perm							0.05		0.00			0.29
v/c Ratio	0.43	0.36			0.00		0.18	0.73	0.00		1.08	0.29
Uniform Delay, d1	18.2	17.9			16.1		16.9	20.0	16.1		22.0	17.5
Progression Factor	1.00	1.00			1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.0	2.3			0.0		3.1	4.9	0.0		53.5	1.8
Delay (s)	21.2	20.2			16.1		20.0	24.9	16.1		75.5	19.3
Level of Service	C	C			B		C	C	B		E	B
Approach Delay (s)		20.7			16.1			24.7			58.3	
Approach LOS		C			B			C			E	

Intersection Summary			
HCM Average Control Delay	43.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frpb, ped/bikes						
Flpb, ped/bikes						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Volume (vph)	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Confl. Peds. (#/hr)	5	5	5			5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type						
Protected Phases						
Permitted Phases						
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0			0.0	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	0.97	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1542	1837		1765	1863
Flt Permitted	0.95	1.00	1.00		0.34	1.00
Satd. Flow (perm)	1770	1542	1837		624	1863
Volume (vph)	49	50	410	39	110	698
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	54	446	42	120	759
RTOR Reduction (vph)	0	32	8	0	0	0
Lane Group Flow (vph)	53	22	480	0	120	759
Confl. Peds. (#/hr)	5	5		5	5	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type		Perm			Perm	
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	16.0	16.0	16.0		16.0	16.0
Effective Green, g (s)	16.0	16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40		0.40	0.40
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	708	617	735		250	745
v/s Ratio Prot	0.03		0.27			c0.41
v/s Ratio Perm		0.04			0.19	
v/c Ratio	0.07	0.04	0.65		0.48	1.02
Uniform Delay, d1	7.4	7.3	9.7		8.9	12.0
Progression Factor	1.00	1.00	1.00		1.28	1.36
Incremental Delay, d2	0.2	0.1	4.5		5.6	35.5
Delay (s)	7.6	7.4	14.2		17.1	51.8
Level of Service	A	A	B		B	D
Approach Delay (s)	7.5		14.2			47.1
Approach LOS	A		B			D

Intersection Summary			
HCM Average Control Delay	33.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.97	1.00	1.00		1.00		0.97	1.00	0.97	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		0.99		1.00	0.99	1.00	
Frt		1.00	0.85	1.00	0.99		1.00		0.85	1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		1860	1542	1765	1840		1759		1542	1759	1542	
Flt Permitted		0.99	1.00	0.35	1.00		0.74		1.00	0.76	1.00	
Satd. Flow (perm)		1844	1542	644	1840		1363		1542	1402	1542	
Volume (vph)	11	429	25	28	263	19	108	0	183	68	0	29
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	466	27	30	286	21	117	0	199	74	0	32
RTOR Reduction (vph)	0	0	16	0	7	0	0	0	119	0	19	0
Lane Group Flow (vph)	0	478	11	30	300	0	117	0	80	74	13	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)		16.0	16.0	16.0	16.0		16.0		16.0	16.0	16.0	
Effective Green, g (s)		16.0	16.0	16.0	16.0		16.0		16.0	16.0	16.0	
Actuated g/C Ratio		0.40	0.40	0.40	0.40		0.40		0.40	0.40	0.40	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Grp Cap (vph)		738	617	258	736		545		617	561	617	
v/s Ratio Prot					0.17						0.02	
v/s Ratio Perm		c0.26	0.02	0.05			0.09		0.13	0.05		
v/c Ratio		0.65	0.02	0.12	0.41		0.21		0.13	0.13	0.02	
Uniform Delay, d1		9.7	7.3	7.6	8.6		7.9		7.6	7.6	7.3	
Progression Factor		1.00	1.00	1.00	1.00		0.72		0.54	1.00	1.00	
Incremental Delay, d2		4.4	0.1	0.9	1.7		0.6		0.3	0.5	0.1	
Delay (s)		14.1	7.3	8.5	10.3		6.3		4.4	8.1	7.3	
Level of Service		B	A	A	B		A		A	A	A	
Approach Delay (s)		13.7			10.1			5.1			7.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1559	1764	3539	3539	1542
Flt Permitted	0.95	1.00	0.49	1.00	1.00	1.00
Satd. Flow (perm)	1770	1559	911	3539	3539	1542
Volume (vph)	265	434	433	529	417	184
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	288	472	471	575	453	200
RTOR Reduction (vph)	0	145	0	0	0	120
Lane Group Flow (vph)	288	327	471	575	453	80
Confl. Peds. (#/hr)	5	5	5			5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type		Perm	Perm			Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	708	624	364	1416	1416	617
v/s Ratio Prot	0.16			0.16	0.13	
v/s Ratio Perm		0.30	c0.52			0.13
v/c Ratio	0.41	0.52	1.29	0.41	0.32	0.13
Uniform Delay, d1	8.6	9.1	12.0	8.6	8.3	7.6
Progression Factor	1.38	1.67	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	2.2	151.3	0.9	0.6	0.4
Delay (s)	13.1	17.4	163.3	9.5	8.9	8.0
Level of Service	B	B	F	A	A	A
Approach Delay (s)	15.8			78.7	8.6	
Approach LOS	B			E	A	

Intersection Summary			
HCM Average Control Delay	40.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	0.99		1.00	0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	1848		1766	1678		1759	1839		1760	1863	1542
Flt Permitted	0.25	1.00		0.25	1.00		0.72	1.00		0.67	1.00	1.00
Satd. Flow (perm)	465	1848		465	1678		1325	1839		1241	1863	1542
Volume (vph)	108	529	26	30	292	386	47	117	9	172	59	35
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	575	28	33	317	420	51	127	10	187	64	38
RTOR Reduction (vph)	0	4	0	0	119	0	0	6	0	0	0	23
Lane Group Flow (vph)	117	599	0	33	618	0	51	131	0	187	64	15
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	16.0
Effective Green, g (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.40	0.40		0.40	0.40	0.40
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	186	739		186	671		530	736		496	745	617
v/s Ratio Prot		0.33			c0.44			0.07			0.03	
v/s Ratio Perm	0.25			0.07			0.04			c0.15		0.02
v/c Ratio	0.63	0.81		0.18	0.92		0.10	0.18		0.38	0.09	0.02
Uniform Delay, d1	9.6	10.7		7.7	11.4		7.5	7.8		8.5	7.5	7.3
Progression Factor	1.05	1.04		0.66	0.74		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.1	9.4		1.0	11.4		0.4	0.5		2.2	0.2	0.1
Delay (s)	25.1	20.5		6.1	19.8		7.8	8.3		10.7	7.7	7.3
Level of Service	C	C		A	B		A	A		B	A	A
Approach Delay (s)		21.2			19.2			8.2			9.6	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frpb, ped/bikes						
Flpb, ped/bikes						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Volume (vph)	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Confl. Peds. (#/hr)	5	5	5	5	5	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type						
Protected Phases						
Permitted Phases						
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0		0.0		0.0	
Approach LOS	A		A		A	

Intersection Summary			
HCM Average Control Delay	0.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor		0.95			0.95		1.00	0.91	1.00			
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.98			
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			
Frt		1.00			0.98		1.00	1.00	0.85			
Flt Protected		0.99			1.00		0.95	1.00	1.00			
Satd. Flow (prot)		3486			3477		1763	5085	1559			
Flt Permitted		0.77			1.00		0.95	1.00	1.00			
Satd. Flow (perm)		2707			3477		1763	5085	1559			
Volume (vph)	183	452	0	0	254	30	221	805	28	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	199	491	0	0	276	33	240	875	30	0	0	0
RTOR Reduction (vph)	0	0	0	0	20	0	0	0	18	0	0	0
Lane Group Flow (vph)	0	690	0	0	289	0	240	875	12	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm		Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)		16.0			16.0		16.0	16.0	16.0			
Effective Green, g (s)		16.0			16.0		16.0	16.0	16.0			
Actuated g/C Ratio		0.40			0.40		0.40	0.40	0.40			
Clearance Time (s)		4.0			4.0		4.0	4.0	4.0			
Lane Grp Cap (vph)		1083			1391		705	2034	624			
v/s Ratio Prot					0.09			c0.17				
v/s Ratio Perm		c0.25					0.14		0.02			
v/c Ratio		0.64			0.21		0.34	0.43	0.02			
Uniform Delay, d1		9.7			7.9		8.3	8.7	7.3			
Progression Factor		1.26			1.00		1.00	1.00	1.00			
Incremental Delay, d2		2.8			0.3		1.3	0.7	0.1			
Delay (s)		15.0			8.2		9.6	9.4	7.3			
Level of Service		B			A		A	A	A			
Approach Delay (s)		15.0			8.2			9.4			0.0	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00			1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.90		1.00	0.97		1.00	0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1760	3110		1764	3409		1767	1817			1848	
Flt Permitted	0.69	1.00		0.46	1.00		0.42	1.00			0.99	
Satd. Flow (perm)	1277	3110		856	3409		772	1817			1831	
Volume (vph)	86	140	326	115	73	19	91	262	42	11	423	19
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	152	354	125	79	21	99	285	46	12	460	21
RTOR Reduction (vph)	0	141	0	0	13	0	0	14	0	0	4	0
Lane Group Flow (vph)	93	365	0	125	87	0	99	317	0	0	489	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.0	16.0		16.0	16.0		16.0	16.0			16.0	
Effective Green, g (s)	16.0	16.0		16.0	16.0		16.0	16.0			16.0	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.40	0.40			0.40	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Grp Cap (vph)	511	1244		342	1364		309	727			732	
v/s Ratio Prot		c0.16			0.03			0.18				
v/s Ratio Perm	0.07			0.15			0.13				c0.27	
v/c Ratio	0.18	0.29		0.37	0.06		0.32	0.44			0.67	
Uniform Delay, d1	7.8	8.2		8.4	7.4		8.3	8.7			9.8	
Progression Factor	1.00	1.00		1.00	1.00		1.98	2.09			1.00	
Incremental Delay, d2	0.8	0.6		3.0	0.1		2.2	1.5			4.8	
Delay (s)	8.5	8.8		11.4	7.5		18.6	19.8			14.6	
Level of Service	A	A		B	A		B	B			B	
Approach Delay (s)		8.7			9.7			19.5			14.6	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frpb, ped/bikes												
Flpb, ped/bikes												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type												
Protected Phases												
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	0.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frpb, ped/bikes						
Flpb, ped/bikes						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Volume (vph)	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Confl. Peds. (#/hr)	5			5	5	5
Turn Type						
Protected Phases						
Permitted Phases						
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)		0.0	0.0		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM Average Control Delay	0.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	8.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
1: Eureka Way(SR 299) & Lower Springs Rd.

AM peak hour conditions
Existing Conditions

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	408	4	20	233	3	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	443	4	22	253	3	72
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			453		752	456
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			453		752	456
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		99	88
cM capacity (veh/h)			1103		367	600

Direction, Lane #	EB	WB 1	WB 2	NB 1
Volume Total	448	22	253	75
Volume Left	0	22	0	3
Volume Right	4	0	0	72
cSH	1700	1103	1700	584
Volume to Capacity	0.26	0.02	0.15	0.13
Queue Length 95th (ft)	0	2	0	11
Control Delay (s)	0.0	8.3	0.0	12.1
Lane LOS		A		B
Approach Delay (s)	0.0	0.7		12.1
Approach LOS				B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

Salt Creek Heights
2: Eureka Way & Buenaventura Blvd.

AM peak hour conditions
Existing Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.91	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	0.98	0.98		1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.86	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.96	
Satd. Flow (prot)	1584	3539	1557	1593	3539	1540	1513	1429	1479		1793	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00		0.96	
Satd. Flow (perm)	1584	3539	1557	1593	3539	1540	1513	1429	1479		1793	
Volume (vph)	3	380	142	216	163	21	98	14	583	71	24	1
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	413	154	235	177	23	107	15	634	77	26	1
RTOR Reduction (vph)	0	0	121	0	0	14	0	267	267	0	0	0
Lane Group Flow (vph)	3	413	33	235	177	9	107	65	50	0	104	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	0.5	11.6	11.6	10.6	21.7	21.7	8.4	8.4	8.4		7.0	
Effective Green, g (s)	0.5	11.6	11.6	10.6	21.7	21.7	8.4	8.4	8.4		7.0	
Actuated g/C Ratio	0.01	0.22	0.22	0.20	0.40	0.40	0.16	0.16	0.16		0.13	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	15	766	337	315	1433	623	237	224	232		234	
v/s Ratio Prot	0.00	c0.12		c0.15	0.05		0.07	c0.23			c0.06	
v/s Ratio Perm			0.10			0.01			0.21			
v/c Ratio	0.20	0.54	0.10	0.75	0.12	0.01	0.45	0.29	0.21		0.44	
Uniform Delay, d1	26.4	18.6	16.8	20.2	10.0	9.6	20.5	20.0	19.7		21.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	6.5	0.7	0.1	9.3	0.0	0.0	1.4	0.7	0.5		1.3	
Delay (s)	32.8	19.4	16.9	29.5	10.0	9.6	21.9	20.7	20.2		22.9	
Level of Service	C	B	B	C	B	A	C	C	C		C	
Approach Delay (s)		18.8			20.5			20.6			22.9	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	53.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	19	1023	517	48	132	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	1112	562	52	143	47
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		913				
pX, platoon unblocked						
vC, conflicting volume	619				1169	291
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	619				1169	291
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				21	93
cM capacity (veh/h)	953				181	700

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	21	556	556	281	281	52	190
Volume Left	21	0	0	0	0	0	143
Volume Right	0	0	0	0	0	52	47
cSH	953	1700	1700	1700	1700	1700	221
Volume to Capacity	0.02	0.33	0.33	0.17	0.17	0.03	0.86
Queue Length 95th (ft)	2	0	0	0	0	0	169
Control Delay (s)	8.9	0.0	0.0	0.0	0.0	0.0	75.5
Lane LOS	A						F
Approach Delay (s)	0.2			0.0			75.5
Approach LOS							F

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	273	819	448	31	29	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	297	890	487	34	32	65
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	526				1552	270
vC1, stage 1 conf vol					509	
vC2, stage 2 conf vol					1044	
vCu, unblocked vol	526				1552	270
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	71				81	91
cM capacity (veh/h)	1033				166	721

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	297	445	445	325	196	97
Volume Left	297	0	0	0	0	32
Volume Right	0	0	0	0	34	65
cSH	1033	1700	1700	1700	1700	346
Volume to Capacity	0.29	0.26	0.26	0.19	0.12	0.28
Queue Length 95th (ft)	30	0	0	0	0	28
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	19.4
Lane LOS	A					C
Approach Delay (s)	2.5			0.0		19.4
Approach LOS						C

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	850	33	118	685	17	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	924	36	128	745	18	99
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume			965		1581	490
vC1, stage 1 conf vol					947	
vC2, stage 2 conf vol					634	
vCu, unblocked vol			965		1581	490
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			82		91	81
cM capacity (veh/h)			700		202	517

Direction, Lane #	EB 1	EB 2	WB	WB 2	WB 3	NB 1
Volume Total	616	344	128	372	372	117
Volume Left	0	0	128	0	0	18
Volume Right	0	36	0	0	0	99
cSH	1700	1700	700	1700	1700	415
Volume to Capacity	0.36	0.20	0.18	0.22	0.22	0.28
Queue Length 95th (ft)	0	0	17	0	0	29
Control Delay (s)	0.0	0.0	11.3	0.0	0.0	17.1
Lane LOS			B			C
Approach Delay (s)	0.0		1.7			17.1
Approach LOS						C

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (prot)	1593	3520		1593	3539	1539		1741		1513	1633	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (perm)	1593	3520		1593	3539	1539		1741		1513	1633	
Volume (vph)	58	929	29	21	628	317	17	44	37	247	45	66
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	1010	32	23	683	345	18	48	40	268	49	72
RTOR Reduction (vph)	0	2	0	0	0	203	0	28	0	0	22	0
Lane Group Flow (vph)	63	1040	0	23	683	142	0	78	0	183	184	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						
Actuated Green, G (s)	3.7	26.8		1.0	24.1	24.1		4.8		9.9	9.9	
Effective Green, g (s)	3.7	26.8		1.0	24.1	24.1		4.8		9.9	9.9	
Actuated g/C Ratio	0.06	0.46		0.02	0.41	0.41		0.08		0.17	0.17	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	101	1613		27	1458	634		143		256	276	
v/s Ratio Prot	c0.04	c0.30		0.01	0.19			c0.06		0.12	c0.13	
v/s Ratio Perm						0.22						
v/c Ratio	0.62	0.64		0.85	0.47	0.22		0.55		0.71	0.67	
Uniform Delay, d1	26.7	12.2		28.7	12.5	11.1		25.8		23.0	22.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	11.4	0.9		110.0	0.2	0.2		4.3		9.1	5.9	
Delay (s)	38.1	13.1		138.6	12.6	11.3		30.1		32.1	28.7	
Level of Service	D	B		F	B	B		C		C	C	
Approach Delay (s)		14.5			15.1			30.1			30.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	58.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.96			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.96	1.00
Satd. Flow (prot)	1593	3534		1593	3386			1851	1554		1797	1554
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00		0.96	1.00
Satd. Flow (perm)	1593	3534		1593	3386			1851	1554		1797	1554
Volume (vph)	99	1169	10	70	864	277	12	86	39	134	48	42
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	1271	11	76	939	301	13	93	42	146	52	46
RTOR Reduction (vph)	0	1	0	0	32	0	0	0	37	0	0	40
Lane Group Flow (vph)	108	1281	0	76	1208	0	0	106	5	0	198	6
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	8.3	33.2		5.9	30.8			7.9	7.9		10.0	10.0
Effective Green, g (s)	8.3	33.2		5.9	30.8			7.9	7.9		10.0	10.0
Actuated g/C Ratio	0.11	0.45		0.08	0.42			0.11	0.11		0.14	0.14
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	181	1607		129	1429			200	168		246	213
v/s Ratio Prot	c0.07	0.36		0.05	c0.37			c0.06			c0.11	
v/s Ratio Perm									0.03			0.03
v/c Ratio	0.60	0.80		0.59	0.85			0.53	0.03		0.80	0.03
Uniform Delay, d1	30.8	17.0		32.4	19.0			30.8	29.1		30.6	27.3
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	5.2	2.8		6.7	4.8			2.7	0.1		17.2	0.1
Delay (s)	36.0	19.9		39.1	23.8			33.5	29.2		47.7	27.4
Level of Service	D	B		D	C			C	C		D	C
Approach Delay (s)		21.1			24.6			32.3			43.9	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	24.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	73.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	122	1193	700	18	8	252
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	133	1297	761	20	9	274
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)		771	933			
pX, platoon unblocked						
vC, conflicting volume	785				1694	400
vC1, stage 1 conf vol					776	
vC2, stage 2 conf vol					919	
vCu, unblocked vol	785				1694	400
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	84				95	54
cM capacity (veh/h)	826				187	594

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	133	648	648	507	273	283
Volume Left	133	0	0	0	0	9
Volume Right	0	0	0	0	20	274
cSH	826	1700	1700	1700	1700	557
Volume to Capacity	0.16	0.38	0.38	0.30	0.16	0.51
Queue Length 95th (ft)	14	0	0	0	0	71
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	17.9
Lane LOS	B					C
Approach Delay (s)	0.9			0.0		17.9
Approach LOS						C

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	1188	2	5	1109	147	5	2	6	27	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	1291	2	5	1205	160	5	2	7	29	0	2
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1263			441							
pX, platoon unblocked												
vC, conflicting volume	1370			1298			1925	2685	657	1966	2606	693
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1370			1298			1925	2685	657	1966	2606	693
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			86	90	98	11	100	99
cM capacity (veh/h)	495			527			39	21	404	33	24	383

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	3	861	433	5	804	562	14	32
Volume Left	3	0	0	5	0	0	5	29
Volume Right	0	0	2	0	0	160	7	2
cSH	495	1700	1700	527	1700	1700	55	35
Volume to Capacity	0.01	0.51	0.25	0.01	0.47	0.33	0.26	0.89
Queue Length 95th (ft)	0	0	0	1	0	0	22	80
Control Delay (s)	12.3	0.0	0.0	11.9	0.0	0.0	92.7	287.1
Lane LOS	B			B			F	F
Approach Delay (s)	0.0			0.0			92.7	287.1
Approach LOS							F	F

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3539	1556	1593	3481		1593	1863	1557	1593	1828	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1593	3539	1556	1593	3481		1593	1863	1557	1593	1828	
Volume (vph)	105	953	174	105	902	91	344	304	53	175	308	40
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	1036	189	114	980	99	374	330	58	190	335	43
RTOR Reduction (vph)	0	0	62	0	8	0	0	0	44	0	6	0
Lane Group Flow (vph)	114	1036	127	114	1071	0	374	330	14	190	372	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	16.6	33.2	33.2	16.6	33.2		4.5	23.2	23.2	4.0	23.2	
Effective Green, g (s)	16.1	33.7	33.7	16.1	33.7		4.0	23.2	23.2	4.0	23.2	
Actuated g/C Ratio	0.17	0.36	0.36	0.17	0.36		0.04	0.25	0.25	0.04	0.25	
Clearance Time (s)	3.5	4.5	4.5	3.5	4.5		3.5	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	276	1282	564	276	1261		69	465	388	69	456	
v/s Ratio Prot	c0.07	0.29		0.07	c0.31		c0.23	0.18		0.12	c0.21	
v/s Ratio Perm			0.12						0.04			
v/c Ratio	0.41	0.81	0.23	0.41	0.85		5.42	0.71	0.04	2.75	0.82	
Uniform Delay, d1	34.2	26.7	20.6	34.2	27.3		44.5	31.8	26.4	44.5	32.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	5.6	0.9	1.0	7.3		2020.6	4.9	0.0	828.2	10.8	
Delay (s)	35.2	32.3	21.5	35.2	34.6		2065.1	36.8	26.5	872.7	43.7	
Level of Service	D	C	C	D	C		F	D	C	F	D	
Approach Delay (s)		31.0			34.7			1031.5			321.0	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM Average Control Delay	272.2	HCM Level of Service	F
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	244	132	47	268	323	464
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	265	143	51	291	351	504
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				713	990	
pX, platoon unblocked	0.67	0.67	0.67			
vC, conflicting volume	1007	613	860			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1010	419	790			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	66	91			
cM capacity (veh/h)	159	419	550			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	409	51	291	855
Volume Left	265	51	0	0
Volume Right	143	0	0	504
cSH	204	550	1700	1700
Volume to Capacity	2.01	0.09	0.17	0.50
Queue Length 95th (ft)	766	8	0	0
Control Delay (s)	509.2	12.2	0.0	0.0
Lane LOS	F	B		
Approach Delay (s)	509.2	1.8		0.0
Approach LOS	F			

Intersection Summary				
Average Delay		129.9		
Intersection Capacity Utilization		74.2%	ICU Level of Service	D
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.96			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1593	3539	1555	1593	3527			3283			3324	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.97			1.00	
Satd. Flow (perm)	1593	3539	1555	1593	3527			3283			3324	
Volume (vph)	21	1048	127	17	926	19	43	16	21	7	72	42
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	1139	138	18	1007	21	47	17	23	8	78	46
RTOR Reduction (vph)	0	0	31	0	1	0	0	21	0	0	41	0
Lane Group Flow (vph)	23	1139	107	18	1027	0	0	66	0	0	91	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2									
Actuated Green, G (s)	2.4	56.9	56.9	2.4	56.9			8.9			11.3	
Effective Green, g (s)	2.4	57.4	57.4	2.4	57.4			8.9			11.3	
Actuated g/C Ratio	0.02	0.60	0.60	0.02	0.60			0.09			0.12	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5			4.0			4.0	
Vehicle Extension (s)	2.5	5.0	5.0	2.5	5.0			3.0			3.0	
Lane Grp Cap (vph)	40	2116	930	40	2109			304			391	
v/s Ratio Prot	c0.01	c0.32		0.01	0.29			c0.03			c0.04	
v/s Ratio Perm			0.09									
v/c Ratio	0.57	0.54	0.12	0.45	0.49			0.22			0.23	
Uniform Delay, d1	46.3	11.4	8.3	46.1	10.9			40.3			38.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	15.3	1.0	0.3	5.8	0.8			0.4			0.3	
Delay (s)	61.6	12.4	8.6	51.9	11.8			40.7			38.7	
Level of Service	E	B	A	D	B			D			D	
Approach Delay (s)		12.9			12.4			40.7			38.7	
Approach LOS		B			B			D			D	

Intersection Summary				
HCM Average Control Delay	15.0		HCM Level of Service	B
HCM Volume to Capacity ratio	0.48			
Actuated Cycle Length (s)	96.0		Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.2%		ICU Level of Service	A
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00		0.88	0.91	0.91	0.88					0.95	1.00
Frpb, ped/bikes	1.00		0.98	1.00	1.00	0.97					1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85					1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (prot)	1593		2735	1449	3390	2711					3539	1558
Flt Permitted	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (perm)	1593		2735	1449	3390	2711					3539	1558
Volume (vph)	295	0	747	28	720	420	0	0	0	0	677	239
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	321	0	812	30	783	457	0	0	0	0	736	260
RTOR Reduction (vph)	0	0	631	21	0	319	0	0	0	0	0	176
Lane Group Flow (vph)	321	0	181	9	783	138	0	0	0	0	736	85
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		custom	Split		Perm						Perm
Protected Phases	2			8	8						1	
Permitted Phases			2			8						1
Actuated Green, G (s)	17.8		17.8	24.2	24.2	24.2					26.0	26.0
Effective Green, g (s)	17.8		17.8	24.2	24.2	24.2					26.0	26.0
Actuated g/C Ratio	0.22		0.22	0.30	0.30	0.30					0.32	0.32
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0					5.0	5.0
Lane Grp Cap (vph)	354		609	438	1025	820					1150	506
v/s Ratio Prot	0.20			0.02	c0.23						c0.21	
v/s Ratio Perm			0.30			0.17						0.17
v/c Ratio	0.91		0.30	0.02	0.76	0.17					0.64	0.17
Uniform Delay, d1	30.3		25.9	19.6	25.3	20.5					23.0	19.3
Progression Factor	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Incremental Delay, d2	29.2		1.2	0.0	3.4	0.1					1.7	0.3
Delay (s)	59.5		27.1	19.6	28.7	20.6					24.7	19.6
Level of Service	E		C	B	C	C					C	B
Approach Delay (s)		36.3			25.6			0.0			23.4	
Approach LOS		D			C			A			C	

Intersection Summary			
HCM Average Control Delay	28.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.98		1.00	0.99	
Flt Protected		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3417			3355		1587	3469		1593	3514	
Flt Permitted		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3417			3355		1587	3469		1593	3514	
Volume (vph)	15	113	28	414	323	144	12	269	33	37	505	22
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	123	30	450	351	157	13	292	36	40	549	24
RTOR Reduction (vph)	0	22	0	0	17	0	0	10	0	0	3	0
Lane Group Flow (vph)	0	147	0	0	941	0	13	318	0	40	570	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		9.3			25.5		0.7	26.0		4.9	30.2	
Effective Green, g (s)		9.3			25.5		0.7	26.0		4.9	30.2	
Actuated g/C Ratio		0.11			0.31		0.01	0.32		0.06	0.37	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		389			1047		14	1104		96	1299	
v/s Ratio Prot		c0.05			c0.29		0.01	0.09		c0.03	c0.16	
v/s Ratio Perm												
v/c Ratio		0.38			0.90		0.93	0.29		0.42	0.44	
Uniform Delay, d1		33.5			26.9		40.5	20.9		37.0	19.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			10.2		201.0	0.7		2.9	1.1	
Delay (s)		34.1			37.1		241.4	21.6		39.9	20.5	
Level of Service		C			D		F	C		D	C	
Approach Delay (s)		34.1			37.1			29.9			21.7	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	81.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
15: Shasta St. & Market St.(SR 273)

AM peak hour conditions
Existing Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0						4.0	
Lane Util. Factor			0.88	0.97	0.95						0.91	
Frpb, ped/bikes			1.00	1.00	1.00						1.00	
Flpb, ped/bikes			1.00	1.00	1.00						1.00	
Frt			0.85	1.00	1.00						1.00	
Flt Protected			1.00	0.95	1.00						1.00	
Satd. Flow (prot)			2787	3433	3539						5068	
Flt Permitted			1.00	0.95	1.00						1.00	
Satd. Flow (perm)			2787	3433	3539						5068	
Volume (vph)	0	0	132	371	772	0	0	0	0	0	1294	28
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	143	403	839	0	0	0	0	0	1407	30
RTOR Reduction (vph)	0	0	95	102	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	0	48	301	839	0	0	0	0	0	1434	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type			custom	Split								
Protected Phases			7	8	8						6	
Permitted Phases												
Actuated Green, G (s)			15.1	21.5	21.5						30.9	
Effective Green, g (s)			15.1	21.5	21.5						31.4	
Actuated g/C Ratio			0.19	0.27	0.27						0.39	
Clearance Time (s)			4.0	4.0	4.0						4.5	
Vehicle Extension (s)			3.0	3.0	3.0						5.0	
Lane Grp Cap (vph)			526	923	951						1989	
v/s Ratio Prot			c0.05	0.12	c0.24						c0.28	
v/s Ratio Perm												
v/c Ratio			0.09	0.33	0.88						0.72	
Uniform Delay, d1			26.8	23.4	28.0						20.6	
Progression Factor			1.00	1.00	1.00						0.90	
Incremental Delay, d2			0.3	0.2	9.7						1.3	
Delay (s)			27.1	23.7	37.7						19.7	
Level of Service			C	C	D						B	
Approach Delay (s)		27.1			33.2			0.0			19.7	
Approach LOS		C			C			A			B	

Intersection Summary				
HCM Average Control Delay	26.0	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	53.6%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Salt Creek Heights
16: Shasta St. & Pine St.(SR273 NB)

AM peak hour conditions
Existing Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0				
Lane Util. Factor					0.86	0.86		0.91				
Frpb, ped/bikes					1.00	0.98		1.00				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					1.00	0.85		1.00				
Flt Protected					1.00	1.00		0.99				
Satd. Flow (prot)					4806	1334		5051				
Flt Permitted					1.00	1.00		0.99				
Satd. Flow (perm)					4806	1334		5051				
Volume (vph)	0	0	0	0	1060	454	114	721	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	1152	493	124	784	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	192	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1152	301	0	908	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type						Perm	Split					
Protected Phases					8		2	2			6	
Permitted Phases						8						
Actuated Green, G (s)					48.8	48.8		26.0				
Effective Green, g (s)					48.8	48.8		26.0				
Actuated g/C Ratio					0.54	0.54		0.29				
Clearance Time (s)					4.0	4.0		4.0				
Vehicle Extension (s)					3.0	3.0		5.0				
Lane Grp Cap (vph)					2606	723		1459				
v/s Ratio Prot					0.24			c0.18				
v/s Ratio Perm						0.37						
v/c Ratio					0.44	0.42		0.62				
Uniform Delay, d1					12.4	12.2		27.7				
Progression Factor					1.00	1.00		1.00				
Incremental Delay, d2					0.5	1.8		1.2				
Delay (s)					12.9	13.9		28.9				
Level of Service					B	B		C				
Approach Delay (s)		0.0			13.2			28.9			0.0	
Approach LOS		A			B			C			A	

Intersection Summary				
HCM Average Control Delay	18.8	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.2	
Intersection Capacity Utilization	46.8%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1710	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0			4.0	
Lane Util. Factor					0.86		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			0.99	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					1.00		1.00	1.00			0.92	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					6351		1593	3539			3242	
Flt Permitted					0.99		0.95	1.00			1.00	
Satd. Flow (perm)					6351		1593	3539			3242	
Volume (vph)	0	0	0	225	1450	24	44	38	0	0	33	34
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	245	1576	26	48	41	0	0	36	37
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	32	0
Lane Group Flow (vph)	0	0	0	0	1846	0	48	41	0	0	41	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split			Prot					
Protected Phases				6	6		3	8			4	
Permitted Phases												
Actuated Green, G (s)					56.5		3.2	15.5			8.3	
Effective Green, g (s)					56.5		3.2	15.5			8.3	
Actuated g/C Ratio					0.71		0.04	0.19			0.10	
Clearance Time (s)					4.0		4.0	4.0			4.0	
Vehicle Extension (s)					5.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					4485		64	686			336	
v/s Ratio Prot					c0.29		c0.03	0.01			c0.02	
v/s Ratio Perm												
v/c Ratio					0.41		0.75	0.06			0.12	
Uniform Delay, d1					4.9		38.0	26.3			32.5	
Progression Factor					1.00		1.03	1.45			1.00	
Incremental Delay, d2					0.3		37.8	0.0			0.2	
Delay (s)					5.1		76.9	38.1			32.7	
Level of Service					A		E	D			C	
Approach Delay (s)		0.0			5.1			59.0			32.7	
Approach LOS		A			A			E			C	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)										4.0	4.0	
Lane Util. Factor										0.97	1.00	
Frpb, ped/bikes										1.00	0.97	
Flpb, ped/bikes										1.00	1.00	
Frt										1.00	0.85	
Flt Protected										0.95	1.00	
Satd. Flow (prot)										3433	1532	
Flt Permitted										0.95	1.00	
Satd. Flow (perm)										3433	1532	
Volume (vph)	0	0	0	0	0	0	0	0	0	1079	0	724
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	1173	0	787
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	166	111	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	1007	676	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Turn Type										Split		
Protected Phases										2	2	
Permitted Phases												
Actuated Green, G (s)										68.7	68.7	
Effective Green, g (s)										68.7	68.7	
Actuated g/C Ratio										0.86	0.86	
Clearance Time (s)										4.0	4.0	
Vehicle Extension (s)										5.0	5.0	
Lane Grp Cap (vph)										2948	1316	
v/s Ratio Prot										0.34	c0.51	
v/s Ratio Perm												
v/c Ratio										0.34	0.51	
Uniform Delay, d1										1.1	1.4	
Progression Factor										0.47	1.00	
Incremental Delay, d2										0.1	0.6	
Delay (s)										0.7	2.0	
Level of Service										A	A	
Approach Delay (s)		0.0			0.0			0.0			1.2	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	1.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0			
Lane Util. Factor		0.91						0.86	0.86			
Frpb, ped/bikes		1.00						1.00	0.98			
Flpb, ped/bikes		1.00						1.00	1.00			
Frt		1.00						1.00	0.85			
Flt Protected		1.00						1.00	1.00			
Satd. Flow (prot)		5079						4806	1335			
Flt Permitted		1.00						1.00	1.00			
Satd. Flow (perm)		5079						4806	1335			
Volume (vph)	28	1064	0	0	0	0	0	774	162	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	1157	0	0	0	0	0	841	176	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	14	0	0	0
Lane Group Flow (vph)	0	1187	0	0	0	0	0	841	162	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm			
Protected Phases	4	4						2			6	
Permitted Phases									2			
Actuated Green, G (s)		34.0						38.0	38.0			
Effective Green, g (s)		34.0						38.0	38.0			
Actuated g/C Ratio		0.42						0.48	0.48			
Clearance Time (s)		4.0						4.0	4.0			
Vehicle Extension (s)		3.0						5.0	5.0			
Lane Grp Cap (vph)		2159						2283	634			
v/s Ratio Prot		c0.23						c0.17				
v/s Ratio Perm									0.13			
v/c Ratio		0.55						0.37	0.26			
Uniform Delay, d1		17.3						13.4	12.6			
Progression Factor		0.37						0.96	0.98			
Incremental Delay, d2		1.0						0.4	0.9			
Delay (s)		7.3						13.2	13.1			
Level of Service		A						B	B			
Approach Delay (s)		7.3			0.0			13.2			0.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1710	1900	1900
Total Lost time (s)		4.0						4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91						0.91	0.91	1.00	0.95	
Frpb, ped/bikes		1.00						0.99	0.98	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	1.00	1.00	
Frt		0.98						0.90	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		4957						3012	1416	1593	3539	
Flt Permitted		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (perm)		4957						3012	1416	1593	3539	
Volume (vph)	19	1068	188	0	0	0	0	61	250	14	245	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	1161	204	0	0	0	0	66	272	15	266	0
RTOR Reduction (vph)	0	18	0	0	0	0	0	103	103	0	0	0
Lane Group Flow (vph)	0	1368	0	0	0	0	0	99	33	15	266	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm	Prot		
Protected Phases	2	2						8		7	4	
Permitted Phases									8			
Actuated Green, G (s)		57.3						9.7	9.7	1.0	14.7	
Effective Green, g (s)		57.3						9.7	9.7	1.0	14.7	
Actuated g/C Ratio		0.72						0.12	0.12	0.01	0.18	
Clearance Time (s)		4.0						4.0	4.0	4.0	4.0	
Vehicle Extension (s)		5.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		3550						365	172	20	650	
v/s Ratio Prot		c0.28						0.07		0.01	c0.08	
v/s Ratio Perm									0.10			
v/c Ratio		0.39						0.27	0.19	0.75	0.41	
Uniform Delay, d1		4.4						31.9	31.6	39.4	28.8	
Progression Factor		2.52						1.00	1.00	1.17	1.36	
Incremental Delay, d2		0.3						0.4	0.5	88.0	0.4	
Delay (s)		11.5						32.3	32.2	133.8	39.5	
Level of Service		B						C	C	F	D	
Approach Delay (s)		11.5			0.0			32.3			44.5	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3489		1593	3513		1593	3458		1593	3352	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3489		1593	3513		1593	3458		1593	3352	
Volume (vph)	61	621	57	27	543	25	135	269	42	52	372	170
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	675	62	29	590	27	147	292	46	57	404	185
RTOR Reduction (vph)	0	8	0	0	4	0	0	12	0	0	50	0
Lane Group Flow (vph)	66	729	0	29	613	0	147	326	0	57	539	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	5.3	22.1		2.6	19.4		9.7	31.3		3.0	24.6	
Effective Green, g (s)	5.3	22.1		2.6	19.4		9.7	31.3		3.0	24.6	
Actuated g/C Ratio	0.07	0.29		0.03	0.26		0.13	0.42		0.04	0.33	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	113	1028		55	909		206	1443		64	1099	
v/s Ratio Prot	c0.04	c0.21		0.02	0.18		c0.09	0.10		0.04	c0.18	
v/s Ratio Perm												
v/c Ratio	0.58	0.71		0.53	0.67		0.71	0.23		0.89	0.49	
Uniform Delay, d1	33.8	23.6		35.6	25.0		31.3	14.1		35.8	20.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.5	2.3		8.8	2.0		11.1	0.4		74.9	1.6	
Delay (s)	41.3	25.8		44.4	27.0		42.4	14.4		110.7	21.8	
Level of Service	D	C		D	C		D	B		F	C	
Approach Delay (s)		27.1			27.7			22.9			29.6	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.95		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		0.99		1.00	1.00			0.99			0.99	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.96		1.00	1.00			0.92			0.92	
Flt Protected		1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)		3345		1577	1844			1652			1643	
Flt Permitted		1.00		0.95	1.00			0.98			0.98	
Satd. Flow (perm)		3345		1577	1844			1652			1643	
Volume (vph)	0	761	255	222	267	1	89	1	113	2	0	3
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	816	277	241	290	1	97	1	123	2	0	3
RTOR Reduction (vph)	0	33	0	0	0	0	0	52	0	0	3	0
Lane Group Flow (vph)	0	1060	0	241	291	0	0	169	0	0	2	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)		28.6		14.3	46.9			11.3			2.5	
Effective Green, g (s)		28.6		14.3	46.9			11.3			2.5	
Actuated g/C Ratio		0.39		0.20	0.65			0.16			0.03	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1316		310	1190			257			56	
v/s Ratio Prot		c0.33		c0.15	0.16			c0.13			c0.00	
v/s Ratio Perm												
v/c Ratio		0.81		0.78	0.24			0.66			0.04	
Uniform Delay, d1		19.6		27.7	5.4			28.9			33.9	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		3.7		11.6	0.1			6.0			0.3	
Delay (s)		23.3		39.3	5.5			34.9			34.2	
Level of Service		C		D	A			C			C	
Approach Delay (s)		23.3			20.8			34.9			34.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	24.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	72.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1844		1573	1786		1562	1551		1577	1533	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1844		1573	1786		1562	1551		1577	1533	
Volume (vph)	94	892	3	12	256	55	4	1	21	140	4	78
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	102	970	3	13	278	60	4	1	23	152	4	85
RTOR Reduction (vph)	0	0	0	0	7	0	0	22	0	0	71	0
Lane Group Flow (vph)	102	973	0	13	331	0	4	2	0	152	18	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.0	45.8		0.6	38.4		0.6	4.4		8.2	12.0	
Effective Green, g (s)	8.0	45.8		0.6	38.4		0.6	4.4		8.2	12.0	
Actuated g/C Ratio	0.11	0.61		0.01	0.51		0.01	0.06		0.11	0.16	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	168	1126		13	914		12	91		172	245	
v/s Ratio Prot	c0.06	c0.53		0.01	0.19		0.00	0.02		c0.10	c0.06	
v/s Ratio Perm												
v/c Ratio	0.61	0.86		1.00	0.36		0.33	0.03		0.88	0.07	
Uniform Delay, d1	32.0	12.0		37.2	11.0		37.0	33.3		32.9	26.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.1	7.1		249.6	0.2		15.7	0.1		37.5	0.1	
Delay (s)	38.1	19.1		286.8	11.2		52.7	33.4		70.4	26.9	
Level of Service	D	B		F	B		D	C		E	C	
Approach Delay (s)		20.9			21.4			36.2			54.3	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	26.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3539	1537	1593	1863	1537	1593	1863	1556	1593	3380	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1593	3539	1537	1593	1863	1537	1593	1863	1556	1593	3380	
Volume (vph)	180	629	132	117	216	67	123	298	137	148	210	71
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	684	143	127	235	73	134	324	149	161	228	77
RTOR Reduction (vph)	0	0	62	0	0	59	0	0	116	0	39	0
Lane Group Flow (vph)	196	684	81	127	235	14	134	324	33	161	266	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	10.2	13.9	13.9	7.4	11.1	11.1	8.1	13.2	13.2	8.8	13.9	
Effective Green, g (s)	10.2	13.9	13.9	7.4	11.1	11.1	8.1	13.2	13.2	8.8	13.9	
Actuated g/C Ratio	0.17	0.23	0.23	0.12	0.19	0.19	0.14	0.22	0.22	0.15	0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	274	830	360	199	349	288	218	415	346	236	792	
v/s Ratio Prot	c0.12	c0.19		0.08	0.13		0.08	c0.17		c0.10	0.09	
v/s Ratio Perm			0.09			0.05			0.10			
v/c Ratio	0.72	0.82	0.22	0.64	0.67	0.05	0.61	0.78	0.10	0.68	0.34	
Uniform Delay, d1	23.2	21.5	18.3	24.7	22.4	19.8	24.1	21.7	18.3	23.9	18.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.6	6.7	0.3	6.6	5.1	0.1	5.1	9.2	0.1	7.9	0.3	
Delay (s)	31.8	28.2	18.7	31.2	27.5	19.8	29.2	30.9	18.4	31.8	19.1	
Level of Service	C	C	B	C	C	B	C	C	B	C	B	
Approach Delay (s)		27.6			27.3			27.5			23.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	26.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	59.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	158	22	28	4	3	7	10	509	8	7	324	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	172	24	30	4	3	8	11	553	9	8	352	30
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	962	961	362	995	983	563	388			567		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	962	961	362	995	983	563	388			567		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	23	90	95	98	99	99	99			99		
cM capacity (veh/h)	223	249	675	192	242	519	1161			996		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	226	15	11	553	9	8	352	30
Volume Left	172	4	11	0	0	8	0	0
Volume Right	30	8	0	0	9	0	0	30
cSH	248	299	1161	1700	1700	996	1700	1700
Volume to Capacity	0.91	0.05	0.01	0.33	0.01	0.01	0.21	0.02
Queue Length 95th (ft)	199	4	1	0	0	1	0	0
Control Delay (s)	79.6	17.7	8.1	0.0	0.0	8.6	0.0	0.0
Lane LOS	F	C	A			A		
Approach Delay (s)	79.6	17.7	0.2			0.2		
Approach LOS	F	C						

Intersection Summary				
Average Delay	15.3			
Intersection Capacity Utilization	51.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0			4.0	4.0	4.0
Lane Util. Factor	0.95			0.95	1.00	1.00
Frpb, ped/bikes	1.00			1.00	1.00	0.98
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	0.99			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3500			3522	1770	1559
Flt Permitted	1.00			0.88	0.95	1.00
Satd. Flow (perm)	3500			3108	1770	1559
Volume (vph)	509	34	37	362	43	17
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	553	37	40	393	47	18
RTOR Reduction (vph)	12	0	0	0	0	11
Lane Group Flow (vph)	578	0	0	433	47	7
Confl. Peds. (#/hr)		5	5		5	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type			Perm			Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Actuated Green, G (s)	16.0			16.0	16.0	16.0
Effective Green, g (s)	16.0			16.0	16.0	16.0
Actuated g/C Ratio	0.40			0.40	0.40	0.40
Clearance Time (s)	4.0			4.0	4.0	4.0
Lane Grp Cap (vph)	1400			1243	708	624
v/s Ratio Prot	c0.17				c0.03	
v/s Ratio Perm				0.14		0.01
v/c Ratio	0.41			0.35	0.07	0.01
Uniform Delay, d1	8.6			8.4	7.4	7.2
Progression Factor	0.82			0.80	1.00	1.00
Incremental Delay, d2	0.8			0.8	0.2	0.0
Delay (s)	7.9			7.5	7.6	7.3
Level of Service	A			A	A	A
Approach Delay (s)	7.9			7.5	7.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0					4.0	4.0	4.0
Lane Util. Factor		0.95			0.95					1.00	0.91	1.00
Frpb, ped/bikes		1.00			1.00					1.00	1.00	0.98
Flpb, ped/bikes		1.00			1.00					1.00	1.00	1.00
Frt		0.97			1.00					1.00	1.00	0.85
Flt Protected		1.00			1.00					0.95	1.00	1.00
Satd. Flow (prot)		3420			3529					1763	5085	1559
Flt Permitted		1.00			0.89					0.95	1.00	1.00
Satd. Flow (perm)		3420			3161					1763	5085	1559
Volume (vph)	0	590	151	27	440	0	0	0	0	69	638	104
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	641	164	29	478	0	0	0	0	75	693	113
RTOR Reduction (vph)	0	57	0	0	0	0	0	0	0	0	0	68
Lane Group Flow (vph)	0	748	0	0	507	0	0	0	0	75	693	45
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Perm						Perm		Perm
Protected Phases		4			8						6	
Permitted Phases				8						6		6
Actuated Green, G (s)		16.0			16.0					16.0	16.0	16.0
Effective Green, g (s)		16.0			16.0					16.0	16.0	16.0
Actuated g/C Ratio		0.40			0.40					0.40	0.40	0.40
Clearance Time (s)		4.0			4.0					4.0	4.0	4.0
Lane Grp Cap (vph)		1368			1264					705	2034	624
v/s Ratio Prot		c0.24									c0.14	
v/s Ratio Perm					0.16					0.04		0.07
v/c Ratio		0.55			0.40					0.11	0.34	0.07
Uniform Delay, d1		9.2			8.6					7.5	8.3	7.4
Progression Factor		1.00			1.00					1.00	1.00	1.00
Incremental Delay, d2		1.6			0.9					0.3	0.5	0.2
Delay (s)		10.8			9.5					7.8	8.8	7.6
Level of Service		B			A					A	A	A
Approach Delay (s)		10.8			9.5			0.0			8.6	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM Average Control Delay	9.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frpb, ped/bikes						
Flpb, ped/bikes						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Volume (vph)	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Confl. Peds. (#/hr)		5	5		5	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type						
Protected Phases						
Permitted Phases						
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0			0.0	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	8.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	0.95	0.95			1.00		1.00	0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00	1.00			0.98		1.00	1.00	0.97		1.00	0.97
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.98			0.86		1.00	1.00	0.85		1.00	0.85
Flt Protected	0.95	0.96			1.00		0.95	1.00	1.00		1.00	1.00
Satd. Flow (prot)	1681	1656			1583		1767	3539	1537		3539	1537
Flt Permitted	0.95	0.96			1.00		0.25	1.00	1.00		1.00	1.00
Satd. Flow (perm)	1681	1656			1583		465	3539	1537		3539	1537
Volume (vph)	311	0	20	0	0	3	20	631	1	0	938	414
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	338	0	22	0	0	3	22	686	1	0	1020	450
RTOR Reduction (vph)	0	9	0	0	2	0	0	0	1	0	0	330
Lane Group Flow (vph)	191	160	0	0	1	0	22	686	0	0	1020	120
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Perm			Perm		Perm	Perm		Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2		2	6		6
Actuated Green, G (s)	16.0	16.0			16.0		16.0	16.0	16.0		16.0	16.0
Effective Green, g (s)	16.0	16.0			16.0		16.0	16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.27	0.27			0.27		0.27	0.27	0.27		0.27	0.27
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	448	442			422		124	944	410		944	410
v/s Ratio Prot	c0.11	0.10			c0.00			0.19			0.29	
v/s Ratio Perm							0.05		0.00			0.29
v/c Ratio	0.43	0.36			0.00		0.18	0.73	0.00		1.08	0.29
Uniform Delay, d1	18.2	17.9			16.1		16.9	20.0	16.1		22.0	17.5
Progression Factor	1.00	1.00			1.00		1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.0	2.3			0.0		3.1	4.9	0.0		53.5	1.8
Delay (s)	21.2	20.2			16.1		20.0	24.9	16.1		75.5	19.3
Level of Service	C	C			B		C	C	B		E	B
Approach Delay (s)		20.7			16.1			24.7			58.3	
Approach LOS		C			B			C			E	

Intersection Summary			
HCM Average Control Delay	43.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frpb, ped/bikes						
Flpb, ped/bikes						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Volume (vph)	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Confl. Peds. (#/hr)	5	5	5			5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type						
Protected Phases						
Permitted Phases						
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0			0.0	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	0.97	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1542	1837		1765	1863
Flt Permitted	0.95	1.00	1.00		0.34	1.00
Satd. Flow (perm)	1770	1542	1837		624	1863
Volume (vph)	49	50	410	39	110	698
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	54	446	42	120	759
RTOR Reduction (vph)	0	32	8	0	0	0
Lane Group Flow (vph)	53	22	480	0	120	759
Confl. Peds. (#/hr)	5	5		5	5	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type		Perm			Perm	
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	16.0	16.0	16.0		16.0	16.0
Effective Green, g (s)	16.0	16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40		0.40	0.40
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	708	617	735		250	745
v/s Ratio Prot	0.03		0.27			c0.41
v/s Ratio Perm		0.04			0.19	
v/c Ratio	0.07	0.04	0.65		0.48	1.02
Uniform Delay, d1	7.4	7.3	9.7		8.9	12.0
Progression Factor	1.00	1.00	1.00		1.28	1.36
Incremental Delay, d2	0.2	0.1	4.5		5.6	35.5
Delay (s)	7.6	7.4	14.2		17.1	51.8
Level of Service	A	A	B		B	D
Approach Delay (s)	7.5		14.2			47.1
Approach LOS	A		B			D

Intersection Summary			
HCM Average Control Delay	33.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00		1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.97	1.00	1.00		1.00		0.97	1.00	0.97	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		0.99		1.00	0.99	1.00	
Frt		1.00	0.85	1.00	0.99		1.00		0.85	1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00		0.95		1.00	0.95	1.00	
Satd. Flow (prot)		1860	1542	1765	1840		1759		1542	1759	1542	
Flt Permitted		0.99	1.00	0.35	1.00		0.74		1.00	0.76	1.00	
Satd. Flow (perm)		1844	1542	644	1840		1363		1542	1402	1542	
Volume (vph)	11	429	25	28	263	19	108	0	183	68	0	29
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	466	27	30	286	21	117	0	199	74	0	32
RTOR Reduction (vph)	0	0	16	0	7	0	0	0	119	0	19	0
Lane Group Flow (vph)	0	478	11	30	300	0	117	0	80	74	13	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm		Perm	Perm			Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)		16.0	16.0	16.0	16.0		16.0		16.0	16.0	16.0	
Effective Green, g (s)		16.0	16.0	16.0	16.0		16.0		16.0	16.0	16.0	
Actuated g/C Ratio		0.40	0.40	0.40	0.40		0.40		0.40	0.40	0.40	
Clearance Time (s)		4.0	4.0	4.0	4.0		4.0		4.0	4.0	4.0	
Lane Grp Cap (vph)		738	617	258	736		545		617	561	617	
v/s Ratio Prot					0.17						0.02	
v/s Ratio Perm		c0.26	0.02	0.05			0.09		0.13	0.05		
v/c Ratio		0.65	0.02	0.12	0.41		0.21		0.13	0.13	0.02	
Uniform Delay, d1		9.7	7.3	7.6	8.6		7.9		7.6	7.6	7.3	
Progression Factor		1.00	1.00	1.00	1.00		0.72		0.54	1.00	1.00	
Incremental Delay, d2		4.4	0.1	0.9	1.7		0.6		0.3	0.5	0.1	
Delay (s)		14.1	7.3	8.5	10.3		6.3		4.4	8.1	7.3	
Level of Service		B	A	A	B		A		A	A	A	
Approach Delay (s)		13.7			10.1			5.1			7.9	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM Average Control Delay	10.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1559	1764	3539	3539	1542
Flt Permitted	0.95	1.00	0.49	1.00	1.00	1.00
Satd. Flow (perm)	1770	1559	911	3539	3539	1542
Volume (vph)	265	434	433	529	417	184
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	288	472	471	575	453	200
RTOR Reduction (vph)	0	145	0	0	0	120
Lane Group Flow (vph)	288	327	471	575	453	80
Confl. Peds. (#/hr)	5	5	5			5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type		Perm	Perm			Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	708	624	364	1416	1416	617
v/s Ratio Prot	0.16			0.16	0.13	
v/s Ratio Perm		0.30	c0.52			0.13
v/c Ratio	0.41	0.52	1.29	0.41	0.32	0.13
Uniform Delay, d1	8.6	9.1	12.0	8.6	8.3	7.6
Progression Factor	1.38	1.67	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	2.2	151.3	0.9	0.6	0.4
Delay (s)	13.1	17.4	163.3	9.5	8.9	8.0
Level of Service	B	B	F	A	A	A
Approach Delay (s)	15.8			78.7	8.6	
Approach LOS	B			E	A	

Intersection Summary			
HCM Average Control Delay	40.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	0.99		1.00	0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	1848		1766	1678		1759	1839		1760	1863	1542
Flt Permitted	0.25	1.00		0.25	1.00		0.72	1.00		0.67	1.00	1.00
Satd. Flow (perm)	465	1848		465	1678		1325	1839		1241	1863	1542
Volume (vph)	108	529	26	30	292	386	47	117	9	172	59	35
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	575	28	33	317	420	51	127	10	187	64	38
RTOR Reduction (vph)	0	4	0	0	119	0	0	6	0	0	0	23
Lane Group Flow (vph)	117	599	0	33	618	0	51	131	0	187	64	15
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	16.0
Effective Green, g (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.40	0.40		0.40	0.40	0.40
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Grp Cap (vph)	186	739		186	671		530	736		496	745	617
v/s Ratio Prot		0.33			c0.44			0.07			0.03	
v/s Ratio Perm	0.25			0.07			0.04			c0.15		0.02
v/c Ratio	0.63	0.81		0.18	0.92		0.10	0.18		0.38	0.09	0.02
Uniform Delay, d1	9.6	10.7		7.7	11.4		7.5	7.8		8.5	7.5	7.3
Progression Factor	1.05	1.04		0.66	0.74		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.1	9.4		1.0	11.4		0.4	0.5		2.2	0.2	0.1
Delay (s)	25.1	20.5		6.1	19.8		7.8	8.3		10.7	7.7	7.3
Level of Service	C	C		A	B		A	A		B	A	A
Approach Delay (s)		21.2			19.2			8.2			9.6	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBR	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frpb, ped/bikes						
Flpb, ped/bikes						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Volume (vph)	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Confl. Peds. (#/hr)	5	5	5	5	5	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type						
Protected Phases						
Permitted Phases						
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0		0.0		0.0	
Approach LOS	A		A		A	

Intersection Summary			
HCM Average Control Delay	0.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0	4.0			
Lane Util. Factor		0.95			0.95		1.00	0.91	1.00			
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.98			
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			
Frt		1.00			0.98		1.00	1.00	0.85			
Flt Protected		0.99			1.00		0.95	1.00	1.00			
Satd. Flow (prot)		3486			3477		1763	5085	1559			
Flt Permitted		0.77			1.00		0.95	1.00	1.00			
Satd. Flow (perm)		2707			3477		1763	5085	1559			
Volume (vph)	183	452	0	0	254	30	221	805	28	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	199	491	0	0	276	33	240	875	30	0	0	0
RTOR Reduction (vph)	0	0	0	0	20	0	0	0	18	0	0	0
Lane Group Flow (vph)	0	690	0	0	289	0	240	875	12	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm						Perm		Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)		16.0			16.0		16.0	16.0	16.0			
Effective Green, g (s)		16.0			16.0		16.0	16.0	16.0			
Actuated g/C Ratio		0.40			0.40		0.40	0.40	0.40			
Clearance Time (s)		4.0			4.0		4.0	4.0	4.0			
Lane Grp Cap (vph)		1083			1391		705	2034	624			
v/s Ratio Prot					0.09			c0.17				
v/s Ratio Perm		c0.25					0.14		0.02			
v/c Ratio		0.64			0.21		0.34	0.43	0.02			
Uniform Delay, d1		9.7			7.9		8.3	8.7	7.3			
Progression Factor		1.26			1.00		1.00	1.00	1.00			
Incremental Delay, d2		2.8			0.3		1.3	0.7	0.1			
Delay (s)		15.0			8.2		9.6	9.4	7.3			
Level of Service		B			A		A	A	A			
Approach Delay (s)		15.0			8.2			9.4			0.0	
Approach LOS		B			A			A			A	

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	1.00			1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.90		1.00	0.97		1.00	0.98			0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1760	3110		1764	3409		1767	1817			1848	
Flt Permitted	0.69	1.00		0.46	1.00		0.42	1.00			0.99	
Satd. Flow (perm)	1277	3110		856	3409		772	1817			1831	
Volume (vph)	86	140	326	115	73	19	91	262	42	11	423	19
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	93	152	354	125	79	21	99	285	46	12	460	21
RTOR Reduction (vph)	0	141	0	0	13	0	0	14	0	0	4	0
Lane Group Flow (vph)	93	365	0	125	87	0	99	317	0	0	489	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.0	16.0		16.0	16.0		16.0	16.0			16.0	
Effective Green, g (s)	16.0	16.0		16.0	16.0		16.0	16.0			16.0	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.40	0.40			0.40	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lane Grp Cap (vph)	511	1244		342	1364		309	727			732	
v/s Ratio Prot		c0.16			0.03			0.18				
v/s Ratio Perm	0.07			0.15			0.13				c0.27	
v/c Ratio	0.18	0.29		0.37	0.06		0.32	0.44			0.67	
Uniform Delay, d1	7.8	8.2		8.4	7.4		8.3	8.7			9.8	
Progression Factor	1.00	1.00		1.00	1.00		1.98	2.09			1.00	
Incremental Delay, d2	0.6	0.6		3.0	0.1		2.2	1.5			4.8	
Delay (s)	8.5	8.8		11.4	7.5		18.6	19.8			14.6	
Level of Service	A	A		B	A		B	B			B	
Approach Delay (s)		8.7			9.7			19.5			14.6	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frpb, ped/bikes												
Flpb, ped/bikes												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type												
Protected Phases												
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	0.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frpb, ped/bikes						
Flpb, ped/bikes						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Volume (vph)	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Confl. Peds. (#/hr)	5			5	5	5
Turn Type						
Protected Phases						
Permitted Phases						
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)		0.0	0.0		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM Average Control Delay	0.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	8.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
1: Eureka Way(SR 299) & Lower Springs Rd.

AM peak hour conditions
Sh term No Prj Conditions

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	437	5	21	315	3	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	475	5	23	342	3	72
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			485		876	488
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			485		876	488
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		99	88
cM capacity (veh/h)			1073		310	575

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	480	23	342	75
Volume Left	0	23	0	3
Volume Right	5	0	0	72
cSH	1700	1073	1700	555
Volume to Capacity	0.28	0.02	0.20	0.14
Queue Length 95th (ft)	0	2	0	12
Control Delay (s)	0.0	8.4	0.0	12.5
Lane LOS		A		B
Approach Delay (s)	0.0	0.5		12.5
Approach LOS				B

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	36.1%	ICU Level of Service	A
Analysis Period (min)	15		

Salt Creek Heights
2: Eureka Way & Buenaventura Blvd.

AM peak hour conditions
Sh term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.91	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	0.99	0.98		1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00		0.97	
Satd. Flow (prot)	1583	3539	1557	1593	3539	1539	1513	1460	1478		1792	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00		0.97	
Satd. Flow (perm)	1583	3539	1557	1593	3539	1539	1513	1460	1478		1792	
Volume (vph)	5	355	166	226	137	30	209	23	558	108	41	4
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	386	180	246	149	33	227	25	607	117	45	4
RTOR Reduction (vph)	0	0	144	0	0	20	0	179	283	0	1	0
Lane Group Flow (vph)	5	386	36	246	149	13	192	139	66	0	165	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	0.6	11.8	11.8	11.4	22.6	22.6	11.1	11.1	11.1		8.6	
Effective Green, g (s)	0.6	11.8	11.8	11.4	22.6	22.6	11.1	11.1	11.1		8.6	
Actuated g/C Ratio	0.01	0.20	0.20	0.19	0.38	0.38	0.19	0.19	0.19		0.15	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	16	709	312	308	1358	591	285	275	279		262	
v/s Ratio Prot	0.00	0.11		c0.15	0.04		0.13	0.22			c0.09	
v/s Ratio Perm			0.12			0.02			0.24			
v/c Ratio	0.31	0.54	0.12	0.80	0.11	0.02	0.67	0.50	0.24		0.63	
Uniform Delay, d1	28.9	21.1	19.3	22.7	11.7	11.3	22.2	21.4	20.3		23.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	10.9	0.9	0.2	13.4	0.0	0.0	6.2	1.5	0.4		4.9	
Delay (s)	39.8	22.0	19.4	36.1	11.7	11.3	28.4	22.9	20.7		28.5	
Level of Service	D	C	B	D	B	B	C	C	C		C	
Approach Delay (s)		21.3			25.7			23.2			28.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	23.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	58.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	23	998	491	45	132	56
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	1085	534	49	143	61
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		913				
pX, platoon unblocked						
vC, conflicting volume	588				1136	277
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	588				1136	277
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				24	91
cM capacity (veh/h)	979				189	715

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	25	542	542	267	267	49	204
Volume Left	25	0	0	0	0	0	143
Volume Right	0	0	0	0	0	49	61
cSH	979	1700	1700	1700	1700	1700	242
Volume to Capacity	0.03	0.32	0.32	0.16	0.16	0.03	0.84
Queue Length 95th (ft)	2	0	0	0	0	0	168
Control Delay (s)	8.8	0.0	0.0	0.0	0.0	0.0	67.7
Lane LOS	A						F
Approach Delay (s)	0.2			0.0			67.7
Approach LOS							F

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	273	819	418	32	34	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	297	890	454	35	37	65
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	494				1520	255
vC1, stage 1 conf vol					477	
vC2, stage 2 conf vol					1044	
vCu, unblocked vol	494				1520	255
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	72				78	91
cM capacity (veh/h)	1061				170	739

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	297	445	445	303	186	102
Volume Left	297	0	0	0	0	37
Volume Right	0	0	0	0	35	65
cSH	1061	1700	1700	1700	1700	334
Volume to Capacity	0.28	0.26	0.26	0.18	0.11	0.31
Queue Length 95th (ft)	29	0	0	0	0	32
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	20.4
Lane LOS	A					C
Approach Delay (s)	2.4			0.0		20.4
Approach LOS						C

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	825	35	110	707	24	81
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	897	38	120	768	26	88
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume			940		1549	477
vC1, stage 1 conf vol					921	
vC2, stage 2 conf vol					628	
vCu, unblocked vol			940		1549	477
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			83		88	83
cM capacity (veh/h)			716		209	527

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	598	337	120	384	384	114
Volume Left	0	0	120	0	0	26
Volume Right	0	38	0	0	0	88
cSH	1700	1700	716	1700	1700	391
Volume to Capacity	0.35	0.20	0.17	0.23	0.23	0.29
Queue Length 95th (ft)	0	0	15	0	0	30
Control Delay (s)	0.0	0.0	11.0	0.0	0.0	18.0
Lane LOS			B			C
Approach Delay (s)	0.0		1.5			18.0
Approach LOS						C

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.94		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (prot)	1593	3520		1593	3539	1539		1728		1513	1633	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (perm)	1593	3520		1593	3539	1539		1728		1513	1633	
Volume (vph)	58	919	29	21	643	315	18	44	46	247	45	66
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	999	32	23	699	342	20	48	50	268	49	72
RTOR Reduction (vph)	0	2	0	0	0	204	0	32	0	0	23	0
Lane Group Flow (vph)	63	1029	0	23	699	138	0	86	0	183	183	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						
Actuated Green, G (s)	3.9	27.4		1.1	24.6	24.6		6.8		9.7	9.7	
Effective Green, g (s)	3.9	27.4		1.1	24.6	24.6		6.8		9.7	9.7	
Actuated g/C Ratio	0.06	0.45		0.02	0.40	0.40		0.11		0.16	0.16	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	102	1581		29	1427	621		193		241	260	
v/s Ratio Prot	c0.04	c0.29		0.01	0.20			c0.07		0.12	c0.13	
v/s Ratio Perm						0.22						
v/c Ratio	0.62	0.65		0.79	0.49	0.22		0.45		0.76	0.70	
Uniform Delay, d1	27.8	13.1		29.8	13.5	11.9		25.3		24.5	24.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	10.6	1.0		83.5	0.3	0.2		1.6		12.9	8.4	
Delay (s)	38.5	14.0		113.4	13.8	12.1		27.0		37.4	32.7	
Level of Service	D	B		F	B	B		C		D	C	
Approach Delay (s)		15.5			15.4			27.0			34.9	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	61.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.96			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.96	1.00
Satd. Flow (prot)	1593	3534		1593	3364			1853	1553		1797	1553
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00		0.96	1.00
Satd. Flow (perm)	1593	3534		1593	3364			1853	1553		1797	1553
Volume (vph)	134	1159	10	73	875	333	12	104	53	155	55	46
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	1260	11	79	951	362	13	113	58	168	60	50
RTOR Reduction (vph)	0	1	0	0	40	0	0	0	51	0	0	41
Lane Group Flow (vph)	146	1270	0	79	1273	0	0	126	7	0	228	9
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	8.1	36.6		5.1	33.6			9.2	9.2		13.8	13.8
Effective Green, g (s)	8.1	36.6		5.1	33.6			9.2	9.2		13.8	13.8
Actuated g/C Ratio	0.10	0.45		0.06	0.42			0.11	0.11		0.17	0.17
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	160	1603		101	1401			211	177		307	266
v/s Ratio Prot	c0.09	c0.36		0.05	c0.39			c0.07			c0.13	
v/s Ratio Perm									0.04			0.03
v/c Ratio	0.91	0.79		0.78	0.91			0.60	0.04		0.74	0.03
Uniform Delay, d1	35.9	18.8		37.3	22.1			34.0	31.8		31.8	27.9
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	46.2	2.8		31.6	8.8			4.5	0.1		9.3	0.0
Delay (s)	82.2	21.6		68.8	30.9			38.5	31.9		41.1	27.9
Level of Service	F	C		E	C			D	C		D	C
Approach Delay (s)		27.8			33.1			36.4			38.7	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	31.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	80.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	122	1183	740	18	8	282
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	133	1286	804	20	9	307
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)		771	933			
pX, platoon unblocked						
vC, conflicting volume	829				1732	422
vC1, stage 1 conf vol					819	
vC2, stage 2 conf vol					913	
vCu, unblocked vol	829				1732	422
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	83				95	47
cM capacity (veh/h)	795				182	575

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	133	643	643	536	288	315
Volume Left	133	0	0	0	0	9
Volume Right	0	0	0	0	20	307
cSH	795	1700	1700	1700	1700	543
Volume to Capacity	0.17	0.38	0.38	0.32	0.17	0.58
Queue Length 95th (ft)	15	0	0	0	0	92
Control Delay (s)	10.4	0.0	0.0	0.0	0.0	20.4
Lane LOS	B					C
Approach Delay (s)	1.0			0.0		20.4
Approach LOS						C

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

Salt Creek Heights
9: Eureka Way & West St.

AM peak hour conditions
Sh term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	1178	2	14	1139	186	15	2	13	29	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	1280	2	15	1238	202	16	2	14	32	0	2
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1263			441							
pX, platoon unblocked												
vC, conflicting volume	1445			1288			1950	2769	651	2042	2669	730
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1445			1288			1950	2769	651	2042	2669	730
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			56	88	97	0	100	99
cM capacity (veh/h)	463			532			37	18	408	28	21	362

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	3	854	429	15	825	615	33	34
Volume Left	3	0	0	15	0	0	16	32
Volume Right	0	0	2	0	0	202	14	2
cSH	463	1700	1700	532	1700	1700	55	29
Volume to Capacity	0.01	0.50	0.25	0.03	0.49	0.36	0.60	1.15
Queue Length 95th (ft)	1	0	0	2	0	0	60	96
Control Delay (s)	12.8	0.0	0.0	12.0	0.0	0.0	141.6	414.4
Lane LOS	B			B			F	F
Approach Delay (s)	0.0			0.1			141.6	414.4
Approach LOS							F	F

Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

Salt Creek Heights
10: Eureka Way & Court St.

AM peak hour conditions
Sh term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3539	1556	1593	3484		1593	1863	1557	1593	1827	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1593	3539	1556	1593	3484		1593	1863	1557	1593	1827	
Volume (vph)	105	943	174	111	964	93	354	319	110	175	346	45
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	1025	189	121	1048	101	385	347	120	190	376	49
RTOR Reduction (vph)	0	0	65	0	8	0	0	0	88	0	7	0
Lane Group Flow (vph)	114	1025	124	121	1141	0	385	347	32	190	418	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	16.1	31.1	31.1	16.9	31.9		4.5	25.0	25.0	4.0	25.0	
Effective Green, g (s)	15.6	31.6	31.6	16.4	32.4		4.0	25.0	25.0	4.0	25.0	
Actuated g/C Ratio	0.17	0.34	0.34	0.18	0.35		0.04	0.27	0.27	0.04	0.27	
Clearance Time (s)	3.5	4.5	4.5	3.5	4.5		3.5	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	267	1202	529	281	1214		69	501	419	69	491	
v/s Ratio Prot	0.07	0.29		c0.08	c0.33		c0.24	0.19		0.12	c0.23	
v/s Ratio Perm			0.12						0.08			
v/c Ratio	0.43	0.85	0.23	0.43	0.94		5.58	0.69	0.08	2.75	0.85	
Uniform Delay, d1	34.7	28.5	22.0	34.1	29.4		44.5	30.5	25.4	44.5	32.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.1	7.8	1.0	1.1	15.0		2092.2	4.1	0.1	828.2	13.4	
Delay (s)	35.8	36.3	23.1	35.2	44.3		2136.7	34.7	25.5	872.7	45.6	
Level of Service	D	D	C	D	D		F	C	C	F	D	
Approach Delay (s)		34.4			43.4			983.2			301.1	
Approach LOS		C			D			F			F	

Intersection Summary			
HCM Average Control Delay	276.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	244	185	47	268	323	464
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	265	201	51	291	351	504
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				713	990	
pX, platoon unblocked						
vC, conflicting volume	1007	613	860			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1007	613	860			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	59	93			
cM capacity (veh/h)	247	488	778			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	466	51	291	855
Volume Left	265	51	0	0
Volume Right	201	0	0	504
cSH	314	778	1700	1700
Volume to Capacity	1.48	0.07	0.17	0.50
Queue Length 95th (ft)	645	5	0	0
Control Delay (s)	265.0	10.0	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	265.0	1.5		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	74.6		
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			0.99			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.96			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1593	3539	1555	1593	3528			3284			3359	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.97			1.00	
Satd. Flow (perm)	1593	3539	1555	1593	3528			3284			3359	
Volume (vph)	21	1052	139	17	1011	19	44	16	21	7	99	44
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	1143	151	18	1099	21	48	17	23	8	108	48
RTOR Reduction (vph)	0	0	34	0	1	0	0	21	0	0	42	0
Lane Group Flow (vph)	23	1143	117	18	1119	0	0	67	0	0	122	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2									
Actuated Green, G (s)	2.4	56.4	56.4	2.4	56.4			8.9			11.8	
Effective Green, g (s)	2.4	56.9	56.9	2.4	56.9			8.9			11.8	
Actuated g/C Ratio	0.02	0.59	0.59	0.02	0.59			0.09			0.12	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5			4.0			4.0	
Vehicle Extension (s)	2.5	5.0	5.0	2.5	5.0			3.0			3.0	
Lane Grp Cap (vph)	40	2098	922	40	2091			304			413	
v/s Ratio Prot	c0.01	c0.32		0.01	0.32			c0.03			c0.05	
v/s Ratio Perm			0.10									
v/c Ratio	0.57	0.54	0.13	0.45	0.54			0.22			0.30	
Uniform Delay, d1	46.3	11.8	8.6	46.1	11.7			40.3			38.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	15.3	1.0	0.3	5.8	1.0			0.4			0.4	
Delay (s)	61.6	12.8	8.9	51.9	12.6			40.7			38.7	
Level of Service	E	B	A	D	B			D			D	
Approach Delay (s)		13.2			13.3			40.7			38.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
13: Eureka Way & Market St.

AM peak hour conditions
Sh term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00		0.88	0.91	0.91	0.88					0.95	1.00
Frpb, ped/bikes	1.00		0.98	1.00	1.00	0.97					1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85					1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (prot)	1593		2730	1449	3390	2711					3539	1558
Flt Permitted	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (perm)	1593		2730	1449	3390	2711					3539	1558
Volume (vph)	369	0	747	29	766	392	0	0	0	0	839	279
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	401	0	812	32	833	426	0	0	0	0	912	303
RTOR Reduction (vph)	0	0	667	20	0	293	0	0	0	0	0	194
Lane Group Flow (vph)	401	0	145	12	833	133	0	0	0	0	912	109
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		custom	Split		Perm						Perm
Protected Phases	2			8	8						1	
Permitted Phases			2			8						1
Actuated Green, G (s)	14.3		14.3	24.9	24.9	24.9					28.8	28.8
Effective Green, g (s)	14.3		14.3	24.9	24.9	24.9					28.8	28.8
Actuated g/C Ratio	0.18		0.18	0.31	0.31	0.31					0.36	0.36
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0					5.0	5.0
Lane Grp Cap (vph)	285		488	451	1055	844					1274	561
v/s Ratio Prot	0.25			0.02	c0.25						c0.26	
v/s Ratio Perm			0.30			0.16						0.19
v/c Ratio	1.41		0.30	0.03	0.79	0.16					0.72	0.19
Uniform Delay, d1	32.8		28.5	19.1	25.2	20.0					22.1	17.6
Progression Factor	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Incremental Delay, d2	202.9		1.6	0.0	4.0	0.1					2.4	0.4
Delay (s)	235.7		30.0	19.2	29.2	20.0					24.5	18.0
Level of Service	F		C	B	C	C					C	B
Approach Delay (s)		98.0			25.9			0.0			22.9	
Approach LOS		F			C			A			C	

Intersection Summary			
HCM Average Control Delay	48.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
14: Court St. & Shasta St.

AM peak hour conditions
Sh term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		0.99	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.98		1.00	0.99	
Flt Protected		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3393			3361		1584	3474		1593	3511	
Flt Permitted		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3393			3361		1584	3474		1593	3511	
Volume (vph)	15	113	36	444	350	144	12	352	40	37	528	24
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	123	39	483	380	157	13	383	43	40	574	26
RTOR Reduction (vph)	0	30	0	0	16	0	0	8	0	0	3	0
Lane Group Flow (vph)	0	148	0	0	1004	0	13	418	0	40	597	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		9.4			26.2		0.7	25.8		5.0	30.1	
Effective Green, g (s)		9.4			26.2		0.7	25.8		5.0	30.1	
Actuated g/C Ratio		0.11			0.32		0.01	0.31		0.06	0.37	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		387			1069		13	1088		97	1283	
v/s Ratio Prot		c0.05			c0.30		0.01	0.12		c0.03	c0.17	
v/s Ratio Perm												
v/c Ratio		0.38			0.94		1.00	0.38		0.41	0.47	
Uniform Delay, d1		33.8			27.3		40.8	22.1		37.3	20.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			15.0		249.6	1.0		2.8	1.2	
Delay (s)		34.4			42.3		290.5	23.1		40.1	21.2	
Level of Service		C			D		F	C		D	C	
Approach Delay (s)		34.4			42.3			31.0			22.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	82.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0						4.0	
Lane Util. Factor			0.88	0.97	0.95						0.91	
Frpb, ped/bikes			1.00	1.00	1.00						1.00	
Flpb, ped/bikes			1.00	1.00	1.00						1.00	
Frt			0.85	1.00	1.00						0.99	
Flt Protected			1.00	0.95	1.00						1.00	
Satd. Flow (prot)			2787	3433	3539						5031	
Flt Permitted			1.00	0.95	1.00						1.00	
Satd. Flow (perm)			2787	3433	3539						5031	
Volume (vph)	0	0	136	402	809	0	0	0	0	0	1321	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	148	437	879	0	0	0	0	0	1436	98
RTOR Reduction (vph)	0	0	83	96	0	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	65	341	879	0	0	0	0	0	1524	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type			custom	Split								
Protected Phases			7	8	8						6	
Permitted Phases												
Actuated Green, G (s)			13.7	21.8	21.8						32.0	
Effective Green, g (s)			13.7	21.8	21.8						32.5	
Actuated g/C Ratio			0.17	0.27	0.27						0.41	
Clearance Time (s)			4.0	4.0	4.0						4.5	
Vehicle Extension (s)			3.0	3.0	3.0						5.0	
Lane Grp Cap (vph)			477	935	964						2044	
v/s Ratio Prot			c0.05	0.13	c0.25						c0.30	
v/s Ratio Perm												
v/c Ratio			0.14	0.36	0.91						0.75	
Uniform Delay, d1			28.1	23.5	28.2						20.2	
Progression Factor			1.00	1.00	1.00						0.86	
Incremental Delay, d2			0.6	0.2	12.6						1.3	
Delay (s)			28.7	23.7	40.7						18.8	
Level of Service			C	C	D						B	
Approach Delay (s)		28.7			35.1			0.0			18.8	
Approach LOS		C			D			A			B	

Intersection Summary				
HCM Average Control Delay	26.4	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	56.6%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0				
Lane Util. Factor					0.86	0.86		0.91				
Frpb, ped/bikes					1.00	0.98		1.00				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					1.00	0.85		1.00				
Flt Protected					1.00	1.00		0.99				
Satd. Flow (prot)					4806	1334		5046				
Flt Permitted					1.00	1.00		0.99				
Satd. Flow (perm)					4806	1334		5046				
Volume (vph)	0	0	0	0	1107	442	134	738	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	1203	480	146	802	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	196	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1203	284	0	948	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type						Perm	Split					
Protected Phases					8		2	2			6	
Permitted Phases						8						
Actuated Green, G (s)					47.6	47.6		27.2				
Effective Green, g (s)					47.6	47.6		27.2				
Actuated g/C Ratio					0.53	0.53		0.30				
Clearance Time (s)					4.0	4.0		4.0				
Vehicle Extension (s)					3.0	3.0		5.0				
Lane Grp Cap (vph)					2542	706		1525				
v/s Ratio Prot					0.25			c0.19				
v/s Ratio Perm						0.36						
v/c Ratio					0.47	0.40		0.62				
Uniform Delay, d1					13.3	12.7		27.0				
Progression Factor					1.00	1.00		1.00				
Incremental Delay, d2					0.6	1.7		1.1				
Delay (s)					14.0	14.4		28.1				
Level of Service					B	B		C				
Approach Delay (s)		0.0			14.1			28.1			0.0	
Approach LOS		A			B			C			A	

Intersection Summary				
HCM Average Control Delay	19.1	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.2	
Intersection Capacity Utilization	48.4%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1710	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0			4.0	
Lane Util. Factor					0.86		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			0.99	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					1.00		1.00	1.00			0.92	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					6351		1593	3539			3242	
Flt Permitted					0.99		0.95	1.00			1.00	
Satd. Flow (perm)					6351		1593	3539			3242	
Volume (vph)	0	0	0	242	1484	21	44	55	0	0	33	34
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	263	1613	23	48	60	0	0	36	37
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	31	0
Lane Group Flow (vph)	0	0	0	0	1898	0	48	60	0	0	42	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split			Prot					
Protected Phases				6	6		3	8			4	
Permitted Phases												
Actuated Green, G (s)					57.1		2.4	14.9			8.5	
Effective Green, g (s)					57.1		2.4	14.9			8.5	
Actuated g/C Ratio					0.71		0.03	0.19			0.11	
Clearance Time (s)					4.0		4.0	4.0			4.0	
Vehicle Extension (s)					5.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					4533		48	659			344	
v/s Ratio Prot					c0.30		c0.03	0.02			c0.02	
v/s Ratio Perm												
v/c Ratio					0.42		1.00	0.09			0.12	
Uniform Delay, d1					4.7		38.8	26.9			32.4	
Progression Factor					1.00		1.01	1.38			1.00	
Incremental Delay, d2					0.3		128.4	0.1			0.2	
Delay (s)					5.0		167.5	37.3			32.5	
Level of Service					A		F	D			C	
Approach Delay (s)		0.0			5.0			95.2			32.5	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	10.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)										4.0	4.0	
Lane Util. Factor										0.97	1.00	
Frpb, ped/bikes										1.00	0.97	
Flpb, ped/bikes										1.00	1.00	
Frt										1.00	0.85	
Flt Protected										0.95	1.00	
Satd. Flow (prot)										3433	1539	
Flt Permitted										0.95	1.00	
Satd. Flow (perm)										3433	1539	
Volume (vph)	0	0	0	0	0	0	0	0	0	1105	17	736
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	1201	18	800
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	170	113	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	1031	705	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Turn Type										Split		
Protected Phases										2	2	
Permitted Phases												
Actuated Green, G (s)										68.7	68.7	
Effective Green, g (s)										68.7	68.7	
Actuated g/C Ratio										0.86	0.86	
Clearance Time (s)										4.0	4.0	
Vehicle Extension (s)										5.0	5.0	
Lane Grp Cap (vph)										2948	1322	
v/s Ratio Prot										0.35	c0.53	
v/s Ratio Perm												
v/c Ratio										0.35	0.53	
Uniform Delay, d1										1.1	1.5	
Progression Factor										0.47	6.98	
Incremental Delay, d2										0.1	0.6	
Delay (s)										0.7	10.9	
Level of Service										A	B	
Approach Delay (s)		0.0			0.0			0.0			4.8	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0			
Lane Util. Factor		0.91						0.86	0.86			
Frpb, ped/bikes		1.00						1.00	0.98			
Flpb, ped/bikes		1.00						1.00	1.00			
Frt		1.00						1.00	0.85			
Flt Protected		1.00						1.00	1.00			
Satd. Flow (prot)		5079						4806	1335			
Flt Permitted		1.00						1.00	1.00			
Satd. Flow (perm)		5079						4806	1335			
Volume (vph)	28	1099	0	0	0	0	0	818	181	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	1195	0	0	0	0	0	889	197	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	12	0	0	0
Lane Group Flow (vph)	0	1225	0	0	0	0	0	889	185	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm			
Protected Phases	4	4						2			6	
Permitted Phases									2			
Actuated Green, G (s)		34.0						38.0	38.0			
Effective Green, g (s)		34.0						38.0	38.0			
Actuated g/C Ratio		0.42						0.48	0.48			
Clearance Time (s)		4.0						4.0	4.0			
Vehicle Extension (s)		3.0						5.0	5.0			
Lane Grp Cap (vph)		2159						2283	634			
v/s Ratio Prot		c0.24						c0.18				
v/s Ratio Perm									0.15			
v/c Ratio		0.57						0.39	0.29			
Uniform Delay, d1		17.4						13.5	12.8			
Progression Factor		0.41						1.00	1.00			
Incremental Delay, d2		1.0						0.5	1.2			
Delay (s)		8.1						14.0	14.0			
Level of Service		A						B	B			
Approach Delay (s)		8.1			0.0			14.0			0.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM Average Control Delay	10.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1710	1900	1900
Total Lost time (s)		4.0						4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91						0.91	0.91	1.00	0.95	
Frpb, ped/bikes		1.00						0.99	0.98	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	1.00	1.00	
Frt		0.97						0.90	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		4929						3016	1416	1593	3539	
Flt Permitted		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (perm)		4929						3016	1416	1593	3539	
Volume (vph)	28	1068	237	0	0	0	0	67	269	14	263	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	1161	258	0	0	0	0	73	292	15	286	0
RTOR Reduction (vph)	0	25	0	0	0	0	0	102	102	0	0	0
Lane Group Flow (vph)	0	1424	0	0	0	0	0	117	44	15	286	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm	Prot		
Protected Phases	2	2						8		7	4	
Permitted Phases									8			
Actuated Green, G (s)		56.9						10.1	10.1	1.0	15.1	
Effective Green, g (s)		56.9						10.1	10.1	1.0	15.1	
Actuated g/C Ratio		0.71						0.13	0.13	0.01	0.19	
Clearance Time (s)		4.0						4.0	4.0	4.0	4.0	
Vehicle Extension (s)		5.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		3506						381	179	20	668	
v/s Ratio Prot		c0.29						0.07		0.01	c0.08	
v/s Ratio Perm									0.10			
v/c Ratio		0.41						0.31	0.24	0.75	0.43	
Uniform Delay, d1		4.7						31.8	31.5	39.4	28.6	
Progression Factor		2.48						1.00	1.00	1.18	1.30	
Incremental Delay, d2		0.3						0.5	0.7	87.9	0.4	
Delay (s)		11.9						32.2	32.2	134.2	37.6	
Level of Service		B						C	C	F	D	
Approach Delay (s)		11.9			0.0			32.2			42.4	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
21: Placer St. & Court St.

AM peak hour conditions
Sh term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3459		1593	3515		1593	3465		1593	3317	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3459		1593	3515		1593	3465		1593	3317	
Volume (vph)	145	712	110	54	605	26	168	299	42	52	397	235
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	158	774	120	59	658	28	183	325	46	57	432	255
RTOR Reduction (vph)	0	14	0	0	3	0	0	12	0	0	92	0
Lane Group Flow (vph)	158	880	0	59	683	0	183	359	0	57	595	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	11.6	28.7		3.8	20.9		13.2	33.4		5.4	25.6	
Effective Green, g (s)	11.6	28.7		3.8	20.9		13.2	33.4		5.4	25.6	
Actuated g/C Ratio	0.13	0.33		0.04	0.24		0.15	0.38		0.06	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	212	1137		69	842		241	1326		99	973	
v/s Ratio Prot	c0.10	c0.26		0.04	0.20		c0.11	0.11		0.04	c0.21	
v/s Ratio Perm												
v/c Ratio	0.75	0.77		0.86	0.81		0.76	0.27		0.58	0.61	
Uniform Delay, d1	36.4	26.4		41.5	31.3		35.5	18.6		39.8	26.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.3	3.3		60.6	6.0		12.9	0.5		7.9	2.9	
Delay (s)	49.7	29.7		102.1	37.3		48.4	19.1		47.7	29.4	
Level of Service	D	C		F	D		D	B		D	C	
Approach Delay (s)		32.7			42.4			28.7			30.8	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	87.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
22: Placer St. & Airpark Dr.

AM peak hour conditions
Sh term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.95		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		0.99		1.00	1.00			0.99			0.99	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.96		1.00	1.00			0.93			0.92	
Flt Protected		1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)		3325		1577	1844			1649			1637	
Flt Permitted		1.00		0.95	1.00			0.98			0.98	
Satd. Flow (perm)		3325		1577	1844			1649			1637	
Volume (vph)	0	1057	394	267	303	1	104	1	124	2	0	3
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1149	428	290	329	1	113	1	135	2	0	3
RTOR Reduction (vph)	0	23	0	0	0	0	0	28	0	0	3	0
Lane Group Flow (vph)	0	1554	0	290	330	0	0	221	0	0	2	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)		69.3		27.1	100.4			21.1			4.1	
Effective Green, g (s)		69.3		27.1	100.4			21.1			4.1	
Actuated g/C Ratio		0.50		0.20	0.73			0.15			0.03	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1675		311	1345			253			49	
v/s Ratio Prot		c0.47		c0.18	0.18			c0.15			c0.00	
v/s Ratio Perm												
v/c Ratio		0.93		0.93	0.25			0.87			0.04	
Uniform Delay, d1		31.8		54.3	6.1			56.9			64.8	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		9.3		33.7	0.1			26.6			0.4	
Delay (s)		41.1		88.0	6.2			83.5			65.2	
Level of Service		D		F	A			F			E	
Approach Delay (s)		41.1			44.5			83.5			65.2	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM Average Control Delay	46.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	137.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
23: Placer St. & Pleasant St.

AM peak hour conditions
Sh term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1843		1577	1789		1549	1540		1577	1517	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1843		1577	1789		1549	1540		1577	1517	
Volume (vph)	114	1314	5	12	306	58	4	1	26	153	4	86
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	124	1428	5	13	333	63	4	1	28	166	4	93
RTOR Reduction (vph)	0	0	0	0	4	0	0	27	0	0	79	0
Lane Group Flow (vph)	124	1433	0	13	392	0	4	2	0	166	18	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	14.8	99.7		1.5	86.4		0.7	6.8		14.1	20.2	
Effective Green, g (s)	14.8	99.7		1.5	86.4		0.7	6.8		14.1	20.2	
Actuated g/C Ratio	0.11	0.72		0.01	0.63		0.01	0.05		0.10	0.15	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	169	1331		17	1119		8	76		161	222	
v/s Ratio Prot	c0.08	c0.78		0.01	0.22		0.00	0.02		c0.11	c0.06	
v/s Ratio Perm												
v/c Ratio	0.73	1.08		0.76	0.35		0.50	0.03		1.03	0.08	
Uniform Delay, d1	59.7	19.2		68.1	12.4		68.5	62.5		62.0	50.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.2	48.1		106.9	0.2		41.8	0.2		79.3	0.2	
Delay (s)	74.9	67.3		175.0	12.6		110.3	62.7		141.3	51.1	
Level of Service	E	E		F	B		F	E		F	D	
Approach Delay (s)		67.9			17.7			68.5			108.1	
Approach LOS		E			B			E			F	

Intersection Summary				
HCM Average Control Delay	63.5	HCM Level of Service	E	
HCM Volume to Capacity ratio	1.02			
Actuated Cycle Length (s)	138.1	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	98.9%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Salt Creek Heights
24: Placer St. & Buenaventura Blvd.

AM peak hour conditions
Sh term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3539	1530	1593	1863	1530	1593	1863	1551	1593	3367	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1593	3539	1530	1593	1863	1530	1593	1863	1551	1593	3367	
Volume (vph)	180	948	161	123	249	85	133	415	178	215	210	76
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	1030	175	134	271	92	145	451	193	234	228	83
RTOR Reduction (vph)	0	0	49	0	0	70	0	0	122	0	39	0
Lane Group Flow (vph)	196	1030	126	134	271	22	145	451	71	234	272	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	13.8	27.0	27.0	8.0	21.2	21.2	12.6	23.8	23.8	14.0	25.2	
Effective Green, g (s)	13.8	27.0	27.0	8.0	21.2	21.2	12.6	23.8	23.8	14.0	25.2	
Actuated g/C Ratio	0.16	0.30	0.30	0.09	0.24	0.24	0.14	0.27	0.27	0.16	0.28	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	248	1076	465	144	445	365	226	499	416	251	956	
v/s Ratio Prot	c0.12	c0.29		0.08	0.15		0.09	c0.24		c0.15	0.09	
v/s Ratio Perm			0.11			0.06			0.12			
v/c Ratio	0.79	0.96	0.27	0.93	0.61	0.06	0.64	0.90	0.17	0.93	0.28	
Uniform Delay, d1	36.1	30.3	23.4	40.1	30.1	26.1	36.0	31.4	24.9	36.9	24.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	15.6	17.9	0.3	54.3	2.4	0.1	6.1	19.6	0.2	38.6	0.2	
Delay (s)	51.7	48.2	23.8	94.4	32.5	26.2	42.1	51.0	25.1	75.6	24.9	
Level of Service	D	D	C	F	C	C	D	D	C	E	C	
Approach Delay (s)		45.6			48.0			43.0			46.7	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM Average Control Delay	45.5	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	88.8	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	82.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	158	23	28	4	3	9	10	594	8	13	379	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	172	25	30	4	3	10	11	646	9	14	412	30
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1129	1126	422	1161	1148	656	447			659		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1129	1126	422	1161	1148	656	447			659		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	87	95	97	98	98	99			98		
cM capacity (veh/h)	168	197	624	142	191	460	1103			920		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	227	17	11	646	9	14	412	30
Volume Left	172	4	11	0	0	14	0	0
Volume Right	30	10	0	0	9	0	0	30
cSH	190	253	1103	1700	1700	920	1700	1700
Volume to Capacity	1.20	0.07	0.01	0.38	0.01	0.02	0.24	0.02
Queue Length 95th (ft)	296	6	1	0	0	1	0	0
Control Delay (s)	178.1	20.3	8.3	0.0	0.0	9.0	0.0	0.0
Lane LOS	F	C	A			A		
Approach Delay (s)	178.1	20.3	0.1			0.3		
Approach LOS	F	C						

Intersection Summary			
Average Delay	30.0		
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		

Salt Creek Heights
1: Eureka Way(SR 299) & Lower Springs Rd.

PM peak hour conditions
Sh Term No Prj Conditions

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	427	2	41	445	4	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	464	2	45	484	4	33
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			471		1048	475
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			471		1048	475
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		98	94
cM capacity (veh/h)			1086		240	585

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	466	45	484	37
Volume Left	0	45	0	4
Volume Right	2	0	0	33
cSH	1700	1086	1700	500
Volume to Capacity	0.27	0.04	0.28	0.07
Queue Length 95th (ft)	0	3	0	6
Control Delay (s)	0.0	8.5	0.0	12.8
Lane LOS		A		B
Approach Delay (s)	0.0	0.7		12.8
Approach LOS				B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

Salt Creek Heights
2: Eureka Way & Buenaventura Blvd.

PM peak hour conditions
Sh Term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.91	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00		0.97	
Satd. Flow (prot)	1586	3539	1556	1593	3539	1537	1513	1598	1477		1779	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00		0.97	
Satd. Flow (perm)	1586	3539	1556	1593	3539	1537	1513	1598	1477		1779	
Volume (vph)	4	393	186	298	451	88	202	46	248	42	25	8
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	427	202	324	490	96	220	50	270	46	27	9
RTOR Reduction (vph)	0	0	146	0	0	44	0	11	204	0	6	0
Lane Group Flow (vph)	4	427	56	324	490	52	137	156	32	0	76	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	0.5	18.5	18.5	18.0	36.0	36.0	9.2	9.2	9.2		5.2	
Effective Green, g (s)	0.5	18.5	18.5	18.0	36.0	36.0	9.2	9.2	9.2		5.2	
Actuated g/C Ratio	0.01	0.28	0.28	0.27	0.54	0.54	0.14	0.14	0.14		0.08	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	12	979	430	429	1904	827	208	220	203		138	
v/s Ratio Prot	0.00	0.12		c0.20	0.14		0.09	0.10			c0.05	
v/s Ratio Perm			0.13			0.06			0.16			
v/c Ratio	0.33	0.44	0.13	0.76	0.26	0.06	0.66	0.71	0.16		0.55	
Uniform Delay, d1	33.0	19.9	18.2	22.4	8.3	7.4	27.4	27.6	25.4		29.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	15.7	0.3	0.1	7.4	0.1	0.0	7.3	10.0	0.4		4.8	
Delay (s)	48.7	20.2	18.3	29.8	8.4	7.4	34.7	37.5	25.8		34.5	
Level of Service	D	C	B	C	A	A	C	D	C		C	
Approach Delay (s)		19.8			15.9			31.7			34.5	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	66.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	44	596	865	108	90	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	48	648	940	117	98	35
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		913				
pX, platoon unblocked						
vC, conflicting volume	1063				1370	480
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1063				1370	480
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				23	93
cM capacity (veh/h)	649				126	527

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	48	324	324	470	470	117	133
Volume Left	48	0	0	0	0	0	98
Volume Right	0	0	0	0	0	117	35
cSH	649	1700	1700	1700	1700	1700	158
Volume to Capacity	0.07	0.19	0.19	0.28	0.28	0.07	0.84
Queue Length 95th (ft)	6	0	0	0	0	0	141
Control Delay (s)	11.0	0.0	0.0	0.0	0.0	0.0	91.5
Lane LOS	B						F
Approach Delay (s)	0.8			0.0			91.5
Approach LOS							F

Intersection Summary			
Average Delay	6.7		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	25	615	857	16	35	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	668	932	17	38	41
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	954				1339	484
vC1, stage 1 conf vol					945	
vC2, stage 2 conf vol					394	
vCu, unblocked vol	954				1339	484
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				85	92
cM capacity (veh/h)	713				254	524

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	27	334	334	621	328	79
Volume Left	27	0	0	0	0	38
Volume Right	0	0	0	0	17	41
cSH	713	1700	1700	1700	1700	348
Volume to Capacity	0.04	0.20	0.20	0.37	0.19	0.23
Queue Length 95th (ft)	3	0	0	0	0	22
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	18.4
Lane LOS	B					C
Approach Delay (s)	0.4			0.0		18.4
Approach LOS						C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	36.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	750	13	68	826	11	102
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	815	14	74	898	12	111
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume			834		1429	425
vC1, stage 1 conf vol					827	
vC2, stage 2 conf vol					602	
vCu, unblocked vol			834		1429	425
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			91		95	81
cM capacity (veh/h)			785		242	570

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	543	286	74	449	449	123
Volume Left	0	0	74	0	0	12
Volume Right	0	14	0	0	0	111
cSH	1700	1700	785	1700	1700	504
Volume to Capacity	0.32	0.17	0.09	0.26	0.26	0.24
Queue Length 95th (ft)	0	0	8	0	0	24
Control Delay (s)	0.0	0.0	10.1	0.0	0.0	14.4
Lane LOS			B			B
Approach Delay (s)	0.0		0.8			14.4
Approach LOS						B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (prot)	1593	3532		1593	3539	1541		1744		1513	1624	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (perm)	1593	3532		1593	3539	1541		1744		1513	1624	
Volume (vph)	59	679	7	22	885	23	15	25	21	37	4	9
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	738	8	24	962	25	16	27	23	40	4	10
RTOR Reduction (vph)	0	0	0	0	0	13	0	21	0	0	9	0
Lane Group Flow (vph)	64	746	0	24	962	12	0	45	0	26	19	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						
Actuated Green, G (s)	3.5	26.4		1.5	24.4	24.4		4.0		3.8	3.8	
Effective Green, g (s)	3.5	26.4		1.5	24.4	24.4		4.0		3.8	3.8	
Actuated g/C Ratio	0.07	0.51		0.03	0.47	0.47		0.08		0.07	0.07	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	108	1804		46	1670	727		135		111	119	
v/s Ratio Prot	c0.04	0.21		0.02	c0.27			c0.04		0.02	c0.02	
v/s Ratio Perm						0.02						
v/c Ratio	0.59	0.41		0.52	0.58	0.02		0.33		0.23	0.16	
Uniform Delay, d1	23.4	7.8		24.7	9.9	7.3		22.6		22.6	22.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	8.4	0.2		10.3	0.5	0.0		1.4		1.1	0.6	
Delay (s)	31.8	8.0		35.0	10.4	7.3		24.0		23.7	23.1	
Level of Service	C	A		D	B	A		C		C	C	
Approach Delay (s)		9.9			10.9			24.0			23.4	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	11.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	51.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.97	1.00
Satd. Flow (prot)	1590	3534		1593	3498			1805	1557		1802	1557
Flt Permitted	0.95	1.00		0.95	1.00			0.97	1.00		0.97	1.00
Satd. Flow (perm)	1590	3534		1593	3498			1805	1557		1802	1557
Volume (vph)	14	726	6	58	989	69	13	7	38	57	28	20
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	789	7	63	1075	75	14	8	41	62	30	22
RTOR Reduction (vph)	0	1	0	0	5	0	0	0	38	0	0	20
Lane Group Flow (vph)	15	795	0	63	1145	0	0	22	3	0	92	2
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	0.4	24.4		3.6	27.6			3.7	3.7		4.5	4.5
Effective Green, g (s)	0.4	24.4		3.6	27.6			3.7	3.7		4.5	4.5
Actuated g/C Ratio	0.01	0.47		0.07	0.53			0.07	0.07		0.09	0.09
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	12	1652		110	1850			128	110		155	134
v/s Ratio Prot	0.01	0.23		c0.04	c0.33			0.01			c0.05	
v/s Ratio Perm									0.03			0.01
v/c Ratio	1.25	0.48		0.57	0.62			0.17	0.03		0.59	0.01
Uniform Delay, d1	25.9	9.6		23.6	8.6			22.8	22.6		23.0	21.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	352.1	0.2		7.0	0.6			0.6	0.1		6.0	0.0
Delay (s)	378.0	9.8		30.6	9.2			23.5	22.7		28.9	21.9
Level of Service	F	A		C	A			C	C		C	C
Approach Delay (s)		16.6			10.3			22.9			27.6	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	52.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	157	1051	878	9	5	241
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	171	1142	954	10	5	262
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)		771	933			
pX, platoon unblocked						
vC, conflicting volume	969				1882	492
vC1, stage 1 conf vol					964	
vC2, stage 2 conf vol					918	
vCu, unblocked vol	969				1882	492
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	76				96	49
cM capacity (veh/h)	704				155	518

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	171	571	571	636	328	267
Volume Left	171	0	0	0	0	5
Volume Right	0	0	0	0	10	262
cSH	704	1700	1700	1700	1700	494
Volume to Capacity	0.24	0.34	0.34	0.37	0.19	0.54
Queue Length 95th (ft)	24	0	0	0	0	79
Control Delay (s)	11.7	0.0	0.0	0.0	0.0	20.5
Lane LOS	B					C
Approach Delay (s)	1.5			0.0		20.5
Approach LOS						C

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	866	12	1	915	100	3	46	16	59	0	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	941	13	1	995	109	3	50	17	64	0	8
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1263			441							
pX, platoon unblocked												
vC, conflicting volume	1108			959			1476	2074	487	1585	2026	562
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1108			959			1476	2074	487	1585	2026	562
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			96	4	97	0	100	98
cM capacity (veh/h)	623			710			84	52	522	9	56	467

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	5	628	327	1	663	440	71	72
Volume Left	5	0	0	1	0	0	3	64
Volume Right	0	0	13	0	0	109	17	8
cSH	623	1700	1700	710	1700	1700	69	10
Volume to Capacity	0.01	0.37	0.19	0.00	0.39	0.26	1.03	6.86
Queue Length 95th (ft)	1	0	0	0	0	0	132	Err
Control Delay (s)	10.8	0.0	0.0	10.1	0.0	0.0	220.5	Err
Lane LOS	B			B			F	F
Approach Delay (s)	0.1			0.0			220.5	Err
Approach LOS							F	F

Intersection Summary				
Average Delay	332.2			
Intersection Capacity Utilization	46.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3539	1556	1593	3449		1593	1863	1557	1593	1806	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1593	3539	1556	1593	3449		1593	1863	1557	1593	1806	
Volume (vph)	89	625	177	71	729	121	178	301	177	85	170	39
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	679	192	77	792	132	193	327	192	92	185	42
RTOR Reduction (vph)	0	0	86	0	13	0	0	0	141	0	11	0
Lane Group Flow (vph)	97	679	106	77	911	0	193	327	51	92	216	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	14.3	39.4	39.4	11.6	36.7		4.5	22.0	22.0	4.0	22.0	
Effective Green, g (s)	13.8	39.9	39.9	11.1	37.2		4.0	22.0	22.0	4.0	22.0	
Actuated g/C Ratio	0.15	0.43	0.43	0.12	0.40		0.04	0.24	0.24	0.04	0.24	
Clearance Time (s)	3.5	4.5	4.5	3.5	4.5		3.5	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	236	1518	668	190	1380		69	441	368	69	427	
v/s Ratio Prot	c0.06	c0.19		0.05	c0.27		c0.12	c0.18		0.06	0.13	
v/s Ratio Perm			0.12						0.12			
v/c Ratio	0.41	0.45	0.16	0.41	0.66		2.80	0.74	0.14	1.33	0.50	
Uniform Delay, d1	35.9	18.8	16.3	37.9	22.7		44.5	32.9	28.0	44.5	30.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.2	1.0	0.5	1.4	2.5		847.4	6.6	0.2	220.9	0.9	
Delay (s)	37.1	19.7	16.8	39.3	25.2		891.9	39.5	28.2	265.4	31.7	
Level of Service	D	B	B	D	C		F	D	C	F	C	
Approach Delay (s)		20.9			26.3			267.5			99.1	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM Average Control Delay	89.5	HCM Level of Service	F
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	256	73	46	475	259	271
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	278	79	50	516	282	295
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				713	990	
pX, platoon unblocked						
vC, conflicting volume	1055	439	581			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1055	439	581			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	87	95			
cM capacity (veh/h)	235	613	989			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	358	50	516	576
Volume Left	278	50	0	0
Volume Right	79	0	0	295
cSH	272	989	1700	1700
Volume to Capacity	1.31	0.05	0.30	0.34
Queue Length 95th (ft)	452	4	0	0
Control Delay (s)	201.4	8.8	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	201.4	0.8		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	48.3		
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.95			0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1593	3539	1555	1593	3525			3293			3204	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.99			0.99	
Satd. Flow (perm)	1593	3539	1555	1593	3525			3293			3204	
Volume (vph)	26	815	130	16	868	21	38	50	40	19	47	76
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	886	141	17	943	23	41	54	43	21	51	83
RTOR Reduction (vph)	0	0	42	0	1	0	0	38	0	0	73	0
Lane Group Flow (vph)	28	886	99	17	966	0	0	100	0	0	82	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2									
Actuated Green, G (s)	3.9	55.6	55.6	2.3	54.0			10.5			11.1	
Effective Green, g (s)	3.9	56.1	56.1	2.3	54.5			10.5			11.1	
Actuated g/C Ratio	0.04	0.58	0.58	0.02	0.57			0.11			0.12	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5			4.0			4.0	
Vehicle Extension (s)	2.5	5.0	5.0	2.5	5.0			3.0			3.0	
Lane Grp Cap (vph)	65	2068	909	38	2001			360			370	
v/s Ratio Prot	c0.02	0.25		0.01	c0.27			c0.04			c0.05	
v/s Ratio Perm			0.09									
v/c Ratio	0.43	0.43	0.11	0.45	0.48			0.28			0.22	
Uniform Delay, d1	45.0	11.1	8.9	46.2	12.4			39.3			38.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	3.3	0.7	0.2	6.0	0.8			0.4			0.3	
Delay (s)	48.3	11.7	9.1	52.2	13.2			39.7			38.8	
Level of Service	D	B	A	D	B			D			D	
Approach Delay (s)		12.3			13.9			39.7			38.8	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00		0.88	0.91	0.91	0.88					0.95	1.00
Frpb, ped/bikes	1.00		0.98	1.00	1.00	0.97					1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85					1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (prot)	1593		2731	1449	3390	2711					3539	1558
Flt Permitted	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (perm)	1593		2731	1449	3390	2711					3539	1558
Volume (vph)	399	0	535	67	700	768	0	0	0	0	815	138
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	434	0	582	73	761	835	0	0	0	0	886	150
RTOR Reduction (vph)	0	0	474	23	0	573	0	0	0	0	0	98
Lane Group Flow (vph)	434	0	108	50	761	262	0	0	0	0	886	53
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		custom	Split		Perm						Perm
Protected Phases	2			8	8						1	
Permitted Phases			2			8						1
Actuated Green, G (s)	14.9		14.9	25.1	25.1	25.1					28.0	28.0
Effective Green, g (s)	14.9		14.9	25.1	25.1	25.1					28.0	28.0
Actuated g/C Ratio	0.19		0.19	0.31	0.31	0.31					0.35	0.35
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0					5.0	5.0
Lane Grp Cap (vph)	297		509	455	1064	851					1239	545
v/s Ratio Prot	c0.27			0.05	0.22						c0.25	
v/s Ratio Perm			0.21			0.31						0.10
v/c Ratio	1.46		0.21	0.11	0.72	0.31					0.72	0.10
Uniform Delay, d1	32.6		27.6	19.5	24.3	20.9					22.5	17.5
Progression Factor	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Incremental Delay, d2	225.3		1.0	0.1	2.3	0.2					2.5	0.2
Delay (s)	257.8		28.5	19.6	26.6	21.1					25.0	17.7
Level of Service	F		C	B	C	C					C	B
Approach Delay (s)		126.5			23.5			0.0			23.9	
Approach LOS		F			C			A			C	

Intersection Summary			
HCM Average Control Delay	51.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.97		1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3405			3336		1593	3468		1593	3518	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3405			3336		1593	3468		1593	3518	
Volume (vph)	32	168	46	300	286	157	16	566	70	55	442	17
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	183	50	326	311	171	17	615	76	60	480	18
RTOR Reduction (vph)	0	23	0	0	28	0	0	9	0	0	3	0
Lane Group Flow (vph)	0	245	0	0	780	0	17	682	0	60	495	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		11.0			22.2		1.4	26.6		4.8	30.0	
Effective Green, g (s)		11.0			22.2		1.4	26.6		4.8	30.0	
Actuated g/C Ratio		0.14			0.28		0.02	0.33		0.06	0.37	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		465			919		28	1145		95	1309	
v/s Ratio Prot		c0.08			c0.24		0.01	c0.20		c0.04	c0.14	
v/s Ratio Perm												
v/c Ratio		0.53			0.85		0.61	0.60		0.63	0.38	
Uniform Delay, d1		32.4			27.6		39.3	22.5		37.0	18.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1			7.4		32.0	2.3		12.9	0.8	
Delay (s)		33.5			35.0		71.3	24.8		49.9	19.3	
Level of Service		C			D		E	C		D	B	
Approach Delay (s)		33.5			35.0			25.9			22.6	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	29.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	80.6	Sum of lost time (s)	20.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
15: Shasta St. & Market St.(SR 273)

PM peak hour conditions
Sh Term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0						4.0	
Lane Util. Factor			0.88	0.97	0.95						0.91	
Frpb, ped/bikes			1.00	1.00	1.00						1.00	
Flpb, ped/bikes			1.00	1.00	1.00						1.00	
Frt			0.85	1.00	1.00						0.99	
Flt Protected			1.00	0.95	1.00						1.00	
Satd. Flow (prot)			2787	3433	3539						5040	
Flt Permitted			1.00	0.95	1.00						1.00	
Satd. Flow (perm)			2787	3433	3539						5040	
Volume (vph)	0	0	337	498	737	0	0	0	0	0	1247	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	366	541	801	0	0	0	0	0	1355	76
RTOR Reduction (vph)	0	0	55	26	0	0	0	0	0	0	9	0
Lane Group Flow (vph)	0	0	311	515	801	0	0	0	0	0	1422	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type			custom	Split								
Protected Phases			7	8	8						6	
Permitted Phases												
Actuated Green, G (s)			15.8	21.3	21.3						30.4	
Effective Green, g (s)			15.8	21.3	21.3						30.9	
Actuated g/C Ratio			0.20	0.27	0.27						0.39	
Clearance Time (s)			4.0	4.0	4.0						4.5	
Vehicle Extension (s)			3.0	3.0	3.0						5.0	
Lane Grp Cap (vph)			550	914	942						1947	
v/s Ratio Prot			c0.13	0.16	c0.23						c0.28	
v/s Ratio Perm												
v/c Ratio			0.57	0.56	0.85						0.73	
Uniform Delay, d1			29.0	25.3	27.8						21.0	
Progression Factor			1.00	1.00	1.00						0.84	
Incremental Delay, d2			4.2	0.8	7.4						1.4	
Delay (s)			33.2	26.1	35.3						19.1	
Level of Service			C	C	D						B	
Approach Delay (s)		33.2			31.6			0.0			19.1	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
16: Shasta St. & Pine St.(SR273 NB)

PM peak hour conditions
Sh Term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0				
Lane Util. Factor					0.86	0.86		0.91				
Frpb, ped/bikes					1.00	0.98		1.00				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					0.97	0.85		1.00				
Flt Protected					1.00	1.00		0.99				
Satd. Flow (prot)					4668	1334		5031				
Flt Permitted					1.00	1.00		0.99				
Satd. Flow (perm)					4668	1334		5031				
Volume (vph)	0	0	0	0	793	703	280	1023	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	862	764	304	1112	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	23	222	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1014	367	0	1416	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type						Perm	Split					
Protected Phases					8		2	2			6	
Permitted Phases						8						
Actuated Green, G (s)					36.4	36.4		38.4				
Effective Green, g (s)					36.4	36.4		38.4				
Actuated g/C Ratio					0.40	0.40		0.43				
Clearance Time (s)					4.0	4.0		4.0				
Vehicle Extension (s)					3.0	3.0		5.0				
Lane Grp Cap (vph)					1888	540		2147				
v/s Ratio Prot					0.22			c0.28				
v/s Ratio Perm						0.44						
v/c Ratio					0.54	0.68		0.66				
Uniform Delay, d1					20.4	22.0		20.6				
Progression Factor					1.00	1.00		1.00				
Incremental Delay, d2					1.1	6.8		1.0				
Delay (s)					21.5	28.8		21.6				
Level of Service					C	C		C				
Approach Delay (s)		0.0			24.1			21.6			0.0	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1710	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0			4.0	
Lane Util. Factor					0.86		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.99	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					6314		1593	3539			3482	
Flt Permitted					0.99		0.95	1.00			1.00	
Satd. Flow (perm)					6314		1593	3539			3482	
Volume (vph)	0	0	0	292	1335	63	100	80	0	0	111	12
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	317	1451	68	109	87	0	0	121	13
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	0	0	0	1832	0	109	87	0	0	123	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split			Prot					
Protected Phases				6	6		3	8			4	
Permitted Phases												
Actuated Green, G (s)					54.4		4.3	17.6			9.3	
Effective Green, g (s)					54.4		4.3	17.6			9.3	
Actuated g/C Ratio					0.68		0.05	0.22			0.12	
Clearance Time (s)					4.0		4.0	4.0			4.0	
Vehicle Extension (s)					5.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					4294		86	779			405	
v/s Ratio Prot					c0.29		c0.07	0.02			c0.04	
v/s Ratio Perm												
v/c Ratio					0.43		1.27	0.11			0.30	
Uniform Delay, d1					5.8		37.8	24.9			32.4	
Progression Factor					1.00		1.00	1.53			1.00	
Incremental Delay, d2					0.3		177.8	0.1			0.4	
Delay (s)					6.1		215.6	38.3			32.8	
Level of Service					A		F	D			C	
Approach Delay (s)		0.0			6.1			136.9			32.8	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)										4.0	4.0	
Lane Util. Factor										0.97	1.00	
Frpb, ped/bikes										1.00	0.97	
Flpb, ped/bikes										1.00	1.00	
Frt										1.00	0.85	
Flt Protected										0.95	1.00	
Satd. Flow (prot)										3433	1532	
Flt Permitted										0.95	1.00	
Satd. Flow (perm)										3433	1532	
Volume (vph)	0	0	0	0	0	0	0	0	0	1470	0	679
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	1598	0	738
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	226	104	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	1372	634	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Turn Type										Split		
Protected Phases										2	2	
Permitted Phases												
Actuated Green, G (s)										68.7	68.7	
Effective Green, g (s)										68.7	68.7	
Actuated g/C Ratio										0.86	0.86	
Clearance Time (s)										4.0	4.0	
Vehicle Extension (s)										5.0	5.0	
Lane Grp Cap (vph)										2948	1316	
v/s Ratio Prot										0.47	c0.48	
v/s Ratio Perm												
v/c Ratio										0.47	0.48	
Uniform Delay, d1										1.3	1.4	
Progression Factor										0.97	1.00	
Incremental Delay, d2										0.2	0.5	
Delay (s)										1.5	1.8	
Level of Service										A	A	
Approach Delay (s)		0.0			0.0			0.0			1.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
19: Tehama St. & Pine St.

PM peak hour conditions
Sh Term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0			
Lane Util. Factor		0.91						0.86	0.86			
Frpb, ped/bikes		1.00						1.00	0.98			
Flpb, ped/bikes		1.00						1.00	1.00			
Frt		1.00						0.99	0.85			
Flt Protected		1.00						1.00	1.00			
Satd. Flow (prot)		5083						4775	1335			
Flt Permitted		1.00						1.00	1.00			
Satd. Flow (perm)		5083						4775	1335			
Volume (vph)	12	1447	0	0	0	0	0	1232	405	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	1573	0	0	0	0	0	1339	440	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	3	3	0	0	0
Lane Group Flow (vph)	0	1586	0	0	0	0	0	1388	385	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm			
Protected Phases	4	4						2			6	
Permitted Phases									2			
Actuated Green, G (s)		34.0						38.0	38.0			
Effective Green, g (s)		34.0						38.0	38.0			
Actuated g/C Ratio		0.42						0.48	0.48			
Clearance Time (s)		4.0						4.0	4.0			
Vehicle Extension (s)		3.0						5.0	5.0			
Lane Grp Cap (vph)		2160						2268	634			
v/s Ratio Prot		c0.31						c0.29				
v/s Ratio Perm									0.29			
v/c Ratio		0.73						0.61	0.61			
Uniform Delay, d1		19.2						15.5	15.5			
Progression Factor		0.55						1.00	1.00			
Incremental Delay, d2		2.0						1.2	4.3			
Delay (s)		12.6						16.8	19.8			
Level of Service		B						B	B			
Approach Delay (s)		12.6			0.0			17.4			0.0	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
20: Tehama St. & East St.

PM peak hour conditions
Sh Term No Prj Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1710	1900	1900
Total Lost time (s)		4.0						4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91						0.91	0.91	1.00	0.95	
Frpb, ped/bikes		1.00						0.99	0.98	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	1.00	1.00	
Frt		0.99						0.91	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		5012						3049	1416	1593	3539	
Flt Permitted		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (perm)		5012						3049	1416	1593	3539	
Volume (vph)	16	1715	157	0	0	0	0	162	499	85	257	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	1864	171	0	0	0	0	176	542	92	279	0
RTOR Reduction (vph)	0	12	0	0	0	0	0	16	16	0	0	0
Lane Group Flow (vph)	0	2040	0	0	0	0	0	432	256	92	279	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm	Prot		
Protected Phases	2	2						8		7	4	
Permitted Phases									8			
Actuated Green, G (s)		45.0						18.0	18.0	5.0	27.0	
Effective Green, g (s)		45.0						18.0	18.0	5.0	27.0	
Actuated g/C Ratio		0.56						0.22	0.22	0.06	0.34	
Clearance Time (s)		4.0						4.0	4.0	4.0	4.0	
Vehicle Extension (s)		5.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		2819						686	319	100	1194	
v/s Ratio Prot		c0.41						0.15		c0.06	0.08	
v/s Ratio Perm									0.19			
v/c Ratio		0.72						0.63	0.80	0.92	0.23	
Uniform Delay, d1		12.9						28.0	29.3	37.3	19.1	
Progression Factor		1.86						1.00	1.00	1.01	0.91	
Incremental Delay, d2		1.2						1.8	13.4	62.9	0.1	
Delay (s)		25.2						29.8	42.7	100.7	17.5	
Level of Service		C						C	D	F	B	
Approach Delay (s)		25.2			0.0			34.7			38.1	
Approach LOS		C			A			C			D	

Intersection Summary			
HCM Average Control Delay	28.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3511		1593	3484		1593	3467		1593	3296	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3511		1593	3484		1593	3467		1593	3296	
Volume (vph)	142	638	31	43	619	63	129	288	40	18	264	182
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	693	34	47	673	68	140	313	43	20	287	198
RTOR Reduction (vph)	0	4	0	0	9	0	0	11	0	0	122	0
Lane Group Flow (vph)	154	723	0	47	732	0	140	345	0	20	363	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	9.8	27.4		3.7	21.3		9.5	32.7		1.7	24.9	
Effective Green, g (s)	9.8	27.4		3.7	21.3		9.5	32.7		1.7	24.9	
Actuated g/C Ratio	0.12	0.34		0.05	0.26		0.12	0.40		0.02	0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	192	1180		72	911		186	1391		33	1007	
v/s Ratio Prot	c0.10	0.21		0.03	c0.21		c0.09	0.10		0.01	c0.15	
v/s Ratio Perm												
v/c Ratio	0.80	0.61		0.65	0.80		0.75	0.25		0.61	0.36	
Uniform Delay, d1	34.9	22.6		38.3	28.1		34.9	16.2		39.6	22.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	20.9	1.0		19.2	5.2		15.7	0.4		27.6	1.0	
Delay (s)	55.8	23.6		57.5	33.3		50.6	16.7		67.2	23.1	
Level of Service	E	C		E	C		D	B		E	C	
Approach Delay (s)		29.2			34.8			26.2			24.8	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	29.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	81.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.93	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.97		1.00	1.00			0.94			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1463	3387		1577	1843			1662			1674	
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (perm)	1463	3387		1577	1843			1662			1674	
Volume (vph)	3	497	107	96	983	5	275	1	255	5	1	5
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	540	116	104	1068	5	299	1	277	5	1	5
RTOR Reduction (vph)	0	11	0	0	0	0	0	21	0	0	5	0
Lane Group Flow (vph)	3	645	0	104	1073	0	0	556	0	0	6	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	0.7	60.1		13.1	72.5			42.3			4.1	
Effective Green, g (s)	0.7	60.1		13.1	72.5			42.3			4.1	
Actuated g/C Ratio	0.01	0.44		0.10	0.53			0.31			0.03	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	8	1501		152	985			518			51	
v/s Ratio Prot	0.00	0.19		c0.07	c0.58			c0.35			c0.01	
v/s Ratio Perm												
v/c Ratio	0.38	0.43		0.68	1.09			1.07			0.12	
Uniform Delay, d1	67.2	26.0		59.2	31.5			46.6			64.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	27.1	0.2		12.0	56.2			60.5			1.1	
Delay (s)	94.3	26.2		71.3	87.7			107.1			65.1	
Level of Service	F	C		E	F			F			E	
Approach Delay (s)		26.5			86.3			107.1			65.1	
Approach LOS		C			F			F			E	

Intersection Summary			
HCM Average Control Delay	74.9	HCM Level of Service	E
HCM Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	135.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.89		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1841		1577	1827		1577	1615		1577	1520	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1841		1577	1827		1577	1615		1577	1520	
Volume (vph)	30	490	5	21	1104	59	27	8	23	37	3	89
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	533	5	23	1200	64	29	9	25	40	3	97
RTOR Reduction (vph)	0	0	0	0	1	0	0	24	0	0	91	0
Lane Group Flow (vph)	33	538	0	23	1263	0	29	10	0	40	9	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.2	81.0		2.1	80.9		2.2	5.3		3.4	6.5	
Effective Green, g (s)	2.2	81.0		2.1	80.9		2.2	5.3		3.4	6.5	
Actuated g/C Ratio	0.02	0.75		0.02	0.75		0.02	0.05		0.03	0.06	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	32	1383		31	1371		32	79		50	92	
v/s Ratio Prot	c0.02	0.29		0.01	c0.69		0.02	c0.02		0.03	c0.07	
v/s Ratio Perm												
v/c Ratio	1.03	0.39		0.74	0.92		0.91	0.13		0.80	0.10	
Uniform Delay, d1	52.8	4.7		52.6	10.9		52.7	49.0		51.9	47.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	168.8	0.2		64.1	10.3		119.3	0.7		59.1	0.5	
Delay (s)	221.6	4.9		116.7	21.2		172.0	49.8		111.0	48.3	
Level of Service	F	A		F	C		F	D		F	D	
Approach Delay (s)		17.4			22.9			106.0			66.2	
Approach LOS		B			C			F			E	

Intersection Summary				
HCM Average Control Delay	26.9	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	107.8	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	78.0%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3539	1531	1593	1863	1531	1593	1863	1552	1593	3319	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1593	3539	1531	1593	1863	1531	1593	1863	1552	1593	3319	
Volume (vph)	95	309	96	150	716	174	232	221	76	154	253	132
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	336	104	163	778	189	252	240	83	167	275	143
RTOR Reduction (vph)	0	0	69	0	0	70	0	0	68	0	77	0
Lane Group Flow (vph)	103	336	35	163	778	119	252	240	15	167	341	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	6.0	29.6	29.6	13.4	37.0	37.0	14.0	16.1	16.1	12.0	14.1	
Effective Green, g (s)	6.0	29.6	29.6	13.4	37.0	37.0	14.0	16.1	16.1	12.0	14.1	
Actuated g/C Ratio	0.07	0.34	0.34	0.15	0.42	0.42	0.16	0.18	0.18	0.14	0.16	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	110	1203	520	245	791	650	256	344	287	219	537	
v/s Ratio Prot	c0.06	0.09		0.10	c0.42		c0.16	c0.13		0.10	0.13	
v/s Ratio Perm			0.07			0.12			0.05			
v/c Ratio	0.94	0.28	0.07	0.67	0.98	0.18	0.98	0.70	0.05	0.76	0.63	
Uniform Delay, d1	40.4	21.0	19.4	34.7	24.7	15.6	36.4	33.2	29.2	36.2	34.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	65.2	0.1	0.1	6.7	27.7	0.1	51.5	6.1	0.1	14.5	2.5	
Delay (s)	105.6	21.1	19.5	41.4	52.5	15.8	87.9	39.3	29.3	50.7	36.6	
Level of Service	F	C	B	D	D	B	F	D	C	D	D	
Approach Delay (s)		36.8			44.7			59.2			40.6	
Approach LOS		D			D			E			D	

Intersection Summary				
HCM Average Control Delay	45.3	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	87.1	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	82.8%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	75	5	25	3	8	8	45	373	5	9	495	109
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	5	27	3	9	9	49	405	5	10	538	118
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1084	1076	548	1101	1189	415	662			416		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1084	1076	548	1101	1189	415	662			416		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	53	97	95	98	95	99	95			99		
cM capacity (veh/h)	173	203	530	165	174	630	918			1133		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	114	21	49	405	5	10	538	118
Volume Left	82	3	49	0	0	10	0	0
Volume Right	27	9	0	0	5	0	0	118
cSH	207	247	918	1700	1700	1133	1700	1700
Volume to Capacity	0.55	0.08	0.05	0.24	0.00	0.01	0.32	0.07
Queue Length 95th (ft)	73	7	4	0	0	1	0	0
Control Delay (s)	41.8	20.9	9.1	0.0	0.0	8.2	0.0	0.0
Lane LOS	E	C	A			A		
Approach Delay (s)	41.8	20.9	1.0			0.1		
Approach LOS	E	C						

Intersection Summary				
Average Delay	4.5			
Intersection Capacity Utilization	52.2%	ICU Level of Service		A
Analysis Period (min)	15			

Salt Creek Heights
1: Eureka Way(SR 299) & Lower Springs Rd.

AM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	438	5	21	319	32	3	0	66	78	0	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	476	5	23	347	35	3	0	72	85	0	10
Pedestrians		5			5			5				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	382			487			898	918	489	952	885	352
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	382			487			898	918	489	952	885	352
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			99	100	88	58	100	99
cM capacity (veh/h)	1171			1072			249	263	574	203	275	687

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	3	482	23	347	35	75	85	10
Volume Left	3	0	23	0	0	3	85	0
Volume Right	0	5	0	0	35	72	0	10
cSH	1171	1700	1072	1700	1700	544	203	687
Volume to Capacity	0.00	0.28	0.02	0.20	0.02	0.14	0.42	0.01
Queue Length 95th (ft)	0	0	2	0	0	12	48	1
Control Delay (s)	8.1	0.0	8.4	0.0	0.0	12.7	34.8	10.3
Lane LOS	A		A			B	D	B
Approach Delay (s)	0.1		0.5			12.7	32.3	
Approach LOS						B	D	

Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

Salt Creek Heights
2: Eureka Way & Buenaventura Blvd.

AM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.91	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	0.99	0.98		1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00		0.97	
Satd. Flow (prot)	1581	3539	1555	1593	3539	1537	1513	1479	1476		1788	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00		0.97	
Satd. Flow (perm)	1581	3539	1555	1593	3539	1537	1513	1479	1476		1788	
Volume (vph)	8	416	206	226	162	36	225	27	558	124	51	9
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	452	224	246	176	39	245	29	607	135	55	10
RTOR Reduction (vph)	0	0	179	0	0	22	0	116	323	0	3	0
Lane Group Flow (vph)	9	452	45	246	176	17	191	177	74	0	197	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	0.7	14.0	14.0	17.3	30.6	30.6	13.0	13.0	13.0		9.9	
Effective Green, g (s)	0.7	14.0	14.0	17.3	30.6	30.6	13.0	13.0	13.0		9.9	
Actuated g/C Ratio	0.01	0.20	0.20	0.25	0.44	0.44	0.19	0.19	0.19		0.14	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	16	706	310	393	1543	670	280	274	273		252	
v/s Ratio Prot	0.01	0.13		c0.15	0.05		0.13	0.20			c0.11	
v/s Ratio Perm			0.14			0.03			0.27			
v/c Ratio	0.56	0.64	0.14	0.63	0.11	0.03	0.68	0.65	0.27		0.78	
Uniform Delay, d1	34.6	25.8	23.2	23.6	11.8	11.3	26.7	26.5	24.5		29.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	38.3	2.0	0.2	3.1	0.0	0.0	6.7	5.2	0.5		14.6	
Delay (s)	72.9	27.8	23.4	26.7	11.8	11.3	33.4	31.7	25.1		43.8	
Level of Service	E	C	C	C	B	B	C	C	C		D	
Approach Delay (s)		26.9			19.7			29.1			43.8	
Approach LOS		C			B			C			D	

Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	70.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	26	1072	521	45	132	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	1165	566	49	143	62
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		913				
pX, platoon unblocked						
vC, conflicting volume	620				1215	293
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	620				1215	293
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				14	91
cM capacity (veh/h)	952				167	697

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	28	583	583	283	283	49	205
Volume Left	28	0	0	0	0	0	143
Volume Right	0	0	0	0	0	49	62
cSH	952	1700	1700	1700	1700	1700	217
Volume to Capacity	0.03	0.34	0.34	0.17	0.17	0.03	0.95
Queue Length 95th (ft)	2	0	0	0	0	0	202
Control Delay (s)	8.9	0.0	0.0	0.0	0.0	0.0	94.8
Lane LOS	A						F
Approach Delay (s)	0.2			0.0			94.8
Approach LOS							F

Intersection Summary			
Average Delay	9.8		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	275	891	447	32	34	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	299	968	486	35	37	66
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	526				1595	270
vC1, stage 1 conf vol					508	
vC2, stage 2 conf vol					1087	
vCu, unblocked vol	526				1595	270
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	71				77	91
cM capacity (veh/h)	1033				158	721

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	299	484	484	324	197	103
Volume Left	299	0	0	0	0	37
Volume Right	0	0	0	0	35	66
cSH	1033	1700	1700	1700	1700	318
Volume to Capacity	0.29	0.28	0.28	0.19	0.12	0.33
Queue Length 95th (ft)	30	0	0	0	0	34
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	21.7
Lane LOS	A					C
Approach Delay (s)	2.3			0.0		21.7
Approach LOS						C

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	893	37	110	735	25	81
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	971	40	120	799	27	88
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume			1016		1639	515
vC1, stage 1 conf vol					996	
vC2, stage 2 conf vol					644	
vCu, unblocked vol			1016		1639	515
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			82		86	82
cM capacity (veh/h)			670		193	498

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	647	364	120	399	399	115
Volume Left	0	0	120	0	0	27
Volume Right	0	40	0	0	0	88
cSH	1700	1700	670	1700	1700	362
Volume to Capacity	0.38	0.21	0.18	0.23	0.23	0.32
Queue Length 95th (ft)	0	0	16	0	0	34
Control Delay (s)	0.0	0.0	11.5	0.0	0.0	19.5
Lane LOS			B			C
Approach Delay (s)	0.0		1.5			19.5
Approach LOS						C

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	50.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.94		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (prot)	1593	3519		1593	3539	1539		1729		1513	1632	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (perm)	1593	3519		1593	3539	1539		1729		1513	1632	
Volume (vph)	60	982	32	21	669	315	19	44	46	247	45	67
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	1067	35	23	727	342	21	48	50	268	49	73
RTOR Reduction (vph)	0	2	0	0	0	202	0	36	0	0	26	0
Lane Group Flow (vph)	65	1100	0	23	727	140	0	83	0	183	181	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						
Actuated Green, G (s)	3.2	26.3		1.2	24.3	24.3		6.7		9.1	9.1	
Effective Green, g (s)	3.2	26.3		1.2	24.3	24.3		6.7		9.1	9.1	
Actuated g/C Ratio	0.05	0.44		0.02	0.41	0.41		0.11		0.15	0.15	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	86	1561		32	1450	631		195		232	250	
v/s Ratio Prot	c0.04	c0.31		0.01	0.21			c0.07		0.12	c0.13	
v/s Ratio Perm						0.22						
v/c Ratio	0.76	0.70		0.72	0.50	0.22		0.42		0.79	0.72	
Uniform Delay, d1	27.7	13.4		28.9	13.0	11.4		24.5		24.2	23.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	30.9	1.5		55.4	0.3	0.2		1.5		16.1	9.9	
Delay (s)	58.5	14.8		84.3	13.3	11.5		26.0		40.3	33.8	
Level of Service	E	B		F	B	B		C		D	C	
Approach Delay (s)		17.3			14.2			26.0			36.9	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	59.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.96			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.96	1.00
Satd. Flow (prot)	1593	3533		1593	3367			1853	1552		1797	1552
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00		0.96	1.00
Satd. Flow (perm)	1593	3533		1593	3367			1853	1552		1797	1552
Volume (vph)	140	1214	12	73	898	333	13	104	53	155	55	48
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	1320	13	79	976	362	14	113	58	168	60	52
RTOR Reduction (vph)	0	1	0	0	39	0	0	0	51	0	0	43
Lane Group Flow (vph)	152	1332	0	79	1299	0	0	127	7	0	228	9
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	9.2	37.7		5.1	33.6			9.2	9.2		13.8	13.8
Effective Green, g (s)	9.2	37.7		5.1	33.6			9.2	9.2		13.8	13.8
Actuated g/C Ratio	0.11	0.46		0.06	0.41			0.11	0.11		0.17	0.17
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	179	1628		99	1383			208	175		303	262
v/s Ratio Prot	c0.10	0.38		0.05	c0.40			c0.07			c0.13	
v/s Ratio Perm									0.04			0.03
v/c Ratio	0.85	0.82		0.80	0.94			0.61	0.04		0.75	0.03
Uniform Delay, d1	35.6	19.1		37.8	23.1			34.6	32.4		32.4	28.4
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	29.4	3.3		34.6	12.3			5.2	0.1		10.1	0.1
Delay (s)	65.0	22.4		72.5	35.4			39.8	32.4		42.5	28.5
Level of Service	E	C		E	D			D	C		D	C
Approach Delay (s)		26.8			37.5			37.5			39.9	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	81.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	130	1229	759	18	8	285
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	141	1336	825	20	9	310
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)		771	933			
pX, platoon unblocked						
vC, conflicting volume	850				1795	432
vC1, stage 1 conf vol					840	
vC2, stage 2 conf vol					956	
vCu, unblocked vol	850				1795	432
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	82				95	45
cM capacity (veh/h)	781				171	567

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	141	668	668	550	295	318
Volume Left	141	0	0	0	0	9
Volume Right	0	0	0	0	20	310
cSH	781	1700	1700	1700	1700	533
Volume to Capacity	0.18	0.39	0.39	0.32	0.17	0.60
Queue Length 95th (ft)	16	0	0	0	0	97
Control Delay (s)	10.6	0.0	0.0	0.0	0.0	21.3
Lane LOS	B					C
Approach Delay (s)	1.0			0.0		21.3
Approach LOS						C

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

Salt Creek Heights
9: Eureka Way & West St.

AM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	1223	4	14	1158	186	16	2	13	29	0	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	1329	4	15	1259	202	17	2	14	32	0	2
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1263			441							
pX, platoon unblocked												
vC, conflicting volume	1466			1339			2010	2839	677	2087	2740	740
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1466			1339			2010	2839	677	2087	2740	740
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			47	87	96	0	100	99
cM capacity (veh/h)	455			509			33	16	392	25	19	356

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	3	886	447	15	839	622	34	34
Volume Left	3	0	0	15	0	0	17	32
Volume Right	0	0	4	0	0	202	14	2
cSH	455	1700	1700	509	1700	1700	48	27
Volume to Capacity	0.01	0.52	0.26	0.03	0.49	0.37	0.70	1.26
Queue Length 95th (ft)	1	0	0	2	0	0	69	100
Control Delay (s)	13.0	0.0	0.0	12.3	0.0	0.0	178.2	480.0
Lane LOS	B			B			F	F
Approach Delay (s)	0.0			0.1			178.2	480.0
Approach LOS							F	F

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

Salt Creek Heights
10: Eureka Way & Court St.

AM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3539	1556	1593	3484		1593	1863	1557	1593	1827	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1593	3539	1556	1593	3484		1593	1863	1557	1593	1827	
Volume (vph)	105	983	179	111	981	93	356	319	110	175	346	45
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	1068	195	121	1066	101	387	347	120	190	376	49
RTOR Reduction (vph)	0	0	64	0	7	0	0	0	88	0	7	0
Lane Group Flow (vph)	114	1068	131	121	1160	0	387	347	32	190	418	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	16.1	31.1	31.1	16.9	31.9		4.5	25.0	25.0	4.0	25.0	
Effective Green, g (s)	15.6	31.6	31.6	16.4	32.4		4.0	25.0	25.0	4.0	25.0	
Actuated g/C Ratio	0.17	0.34	0.34	0.18	0.35		0.04	0.27	0.27	0.04	0.27	
Clearance Time (s)	3.5	4.5	4.5	3.5	4.5		3.5	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	267	1202	529	281	1214		69	501	419	69	491	
v/s Ratio Prot	0.07	0.30		c0.08	c0.33		c0.24	0.19		0.12	c0.23	
v/s Ratio Perm			0.13						0.08			
v/c Ratio	0.43	0.89	0.25	0.43	0.96		5.61	0.69	0.08	2.75	0.85	
Uniform Delay, d1	34.7	29.0	22.1	34.1	29.6		44.5	30.5	25.4	44.5	32.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.1	10.0	1.1	1.1	17.1		2105.2	4.1	0.1	828.2	13.4	
Delay (s)	35.8	39.0	23.2	35.2	46.7		2149.7	34.7	25.5	872.7	45.6	
Level of Service	D	D	C	D	D		F	C	C	F	D	
Approach Delay (s)		36.5			45.6			991.8			301.1	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM Average Control Delay	276.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	252	185	47	268	323	467
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	274	201	51	291	351	508
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				713	990	
pX, platoon unblocked						
vC, conflicting volume	1008	615	864			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1008	615	864			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	59	93			
cM capacity (veh/h)	247	487	776			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	475	51	291	859
Volume Left	274	51	0	0
Volume Right	201	0	0	508
cSH	312	776	1700	1700
Volume to Capacity	1.52	0.07	0.17	0.51
Queue Length 95th (ft)	675	5	0	0
Control Delay (s)	281.5	10.0	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	281.5	1.5		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	80.1		
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.96			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1593	3539	1555	1593	3528			3285			3356	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.97			1.00	
Satd. Flow (perm)	1593	3539	1555	1593	3528			3285			3356	
Volume (vph)	23	1089	141	17	1027	19	45	16	21	7	99	45
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	1184	153	18	1116	21	49	17	23	8	108	49
RTOR Reduction (vph)	0	0	33	0	1	0	0	21	0	0	43	0
Lane Group Flow (vph)	25	1184	120	18	1136	0	0	68	0	0	122	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2									
Actuated Green, G (s)	2.5	56.4	56.4	2.4	56.3			8.9			11.8	
Effective Green, g (s)	2.5	56.9	56.9	2.4	56.8			8.9			11.8	
Actuated g/C Ratio	0.03	0.59	0.59	0.02	0.59			0.09			0.12	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5			4.0			4.0	
Vehicle Extension (s)	2.5	5.0	5.0	2.5	5.0			3.0			3.0	
Lane Grp Cap (vph)	41	2098	922	40	2087			305			413	
v/s Ratio Prot	c0.02	c0.33		0.01	0.32			c0.03			c0.05	
v/s Ratio Perm			0.10									
v/c Ratio	0.61	0.56	0.13	0.45	0.54			0.22			0.30	
Uniform Delay, d1	46.3	12.0	8.6	46.1	11.8			40.3			38.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	19.7	1.1	0.3	5.8	1.0			0.4			0.4	
Delay (s)	66.0	13.1	8.9	51.9	12.8			40.7			38.7	
Level of Service	E	B	A	D	B			D			D	
Approach Delay (s)		13.6			13.4			40.7			38.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00		0.88	0.91	0.91	0.88					0.95	1.00
Frpb, ped/bikes	1.00		0.98	1.00	1.00	0.97					1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85					1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (prot)	1593		2730	1449	3390	2711					3539	1558
Flt Permitted	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (perm)	1593		2730	1449	3390	2711					3539	1558
Volume (vph)	384	0	769	29	776	392	0	0	0	0	839	285
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	417	0	836	32	843	426	0	0	0	0	912	310
RTOR Reduction (vph)	0	0	669	20	0	293	0	0	0	0	0	198
Lane Group Flow (vph)	417	0	167	12	843	133	0	0	0	0	912	112
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		custom	Split		Perm						Perm
Protected Phases	2			8	8						1	
Permitted Phases			2			8						1
Actuated Green, G (s)	14.2		14.2	25.0	25.0	25.0					28.8	28.8
Effective Green, g (s)	14.2		14.2	25.0	25.0	25.0					28.8	28.8
Actuated g/C Ratio	0.18		0.18	0.31	0.31	0.31					0.36	0.36
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0					5.0	5.0
Lane Grp Cap (vph)	283		485	453	1059	847					1274	561
v/s Ratio Prot	0.26			0.02	c0.25						c0.26	
v/s Ratio Perm			0.31			0.16						0.20
v/c Ratio	1.47		0.34	0.03	0.80	0.16					0.72	0.20
Uniform Delay, d1	32.9		28.8	19.1	25.2	19.9					22.1	17.6
Progression Factor	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Incremental Delay, d2	231.3		1.9	0.0	4.2	0.1					2.4	0.4
Delay (s)	264.2		30.8	19.1	29.4	20.0					24.5	18.0
Level of Service	F		C	B	C	B					C	B
Approach Delay (s)		108.5			26.1			0.0			22.8	
Approach LOS		F			C			A			C	

Intersection Summary			
HCM Average Control Delay	52.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.98		1.00	0.99	
Flt Protected		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3394			3361		1588	3475		1593	3514	
Flt Permitted		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3394			3361		1588	3475		1593	3514	
Volume (vph)	15	113	36	444	350	145	12	353	40	39	531	24
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	123	39	483	380	158	13	384	43	42	577	26
RTOR Reduction (vph)	0	35	0	0	18	0	0	10	0	0	3	0
Lane Group Flow (vph)	0	143	0	0	1003	0	13	417	0	42	600	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		7.2			23.4		0.6	19.5		2.1	21.0	
Effective Green, g (s)		7.2			23.4		0.6	19.5		2.1	21.0	
Actuated g/C Ratio		0.11			0.34		0.01	0.29		0.03	0.31	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		358			1153		14	994		49	1082	
v/s Ratio Prot		c0.05			c0.30		0.01	0.12		c0.03	c0.17	
v/s Ratio Perm												
v/c Ratio		0.40			0.87		0.93	0.42		0.86	0.55	
Uniform Delay, d1		28.5			21.0		33.8	19.8		32.9	19.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7			7.2		201.0	1.3		76.5	2.0	
Delay (s)		29.2			28.2		234.7	21.1		109.4	21.7	
Level of Service		C			C		F	C		F	C	
Approach Delay (s)		29.2			28.2			27.4			27.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	68.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
15: Shasta St. & Market St.(SR 273)

AM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0						4.0	
Lane Util. Factor			0.88	0.97	0.95						0.91	
Frpb, ped/bikes			1.00	1.00	1.00						1.00	
Flpb, ped/bikes			1.00	1.00	1.00						1.00	
Frt			0.85	1.00	1.00						0.99	
Flt Protected			1.00	0.95	1.00						1.00	
Satd. Flow (prot)			2787	3433	3539						5032	
Flt Permitted			1.00	0.95	1.00						1.00	
Satd. Flow (perm)			2787	3433	3539						5032	
Volume (vph)	0	0	136	402	809	0	0	0	0	0	1343	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	148	437	879	0	0	0	0	0	1460	98
RTOR Reduction (vph)	0	0	83	95	0	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	65	342	879	0	0	0	0	0	1548	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type			custom	Split								
Protected Phases			7	8	8						6	
Permitted Phases												
Actuated Green, G (s)			13.3	21.8	21.8						32.4	
Effective Green, g (s)			13.3	21.8	21.8						32.9	
Actuated g/C Ratio			0.17	0.27	0.27						0.41	
Clearance Time (s)			4.0	4.0	4.0						4.5	
Vehicle Extension (s)			3.0	3.0	3.0						5.0	
Lane Grp Cap (vph)			463	935	964						2069	
v/s Ratio Prot			c0.05	0.13	c0.25						c0.31	
v/s Ratio Perm												
v/c Ratio			0.14	0.37	0.91						0.75	
Uniform Delay, d1			28.5	23.5	28.2						20.0	
Progression Factor			1.00	1.00	1.00						0.86	
Incremental Delay, d2			0.6	0.2	12.6						1.3	
Delay (s)			29.1	23.8	40.7						18.5	
Level of Service			C	C	D						B	
Approach Delay (s)		29.1			35.1			0.0			18.5	
Approach LOS		C			D			A			B	

Intersection Summary			
HCM Average Control Delay	26.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
16: Shasta St. & Pine St.(SR273 NB)

AM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0				
Lane Util. Factor					0.86	0.86		0.91				
Frpb, ped/bikes					1.00	0.98		1.00				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					1.00	0.85		1.00				
Flt Protected					1.00	1.00		0.99				
Satd. Flow (prot)					4806	1334		5046				
Flt Permitted					1.00	1.00		0.99				
Satd. Flow (perm)					4806	1334		5046				
Volume (vph)	0	0	0	0	1107	451	134	738	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	1203	490	146	802	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	196	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1203	294	0	948	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type						Perm	Split					
Protected Phases					8		2	2			6	
Permitted Phases						8						
Actuated Green, G (s)					47.6	47.6		27.2				
Effective Green, g (s)					47.6	47.6		27.2				
Actuated g/C Ratio					0.53	0.53		0.30				
Clearance Time (s)					4.0	4.0		4.0				
Vehicle Extension (s)					3.0	3.0		5.0				
Lane Grp Cap (vph)					2542	706		1525				
v/s Ratio Prot					0.25			c0.19				
v/s Ratio Perm						0.37						
v/c Ratio					0.47	0.42		0.62				
Uniform Delay, d1					13.3	12.8		27.0				
Progression Factor					1.00	1.00		1.00				
Incremental Delay, d2					0.6	1.8		1.1				
Delay (s)					14.0	14.6		28.1				
Level of Service					B	B		C				
Approach Delay (s)		0.0			14.1			28.1			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	48.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
17: Shasta St. & East St.

AM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1710	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0			4.0	
Lane Util. Factor					0.86		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			0.99	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					1.00		1.00	1.00			0.92	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					6351		1593	3539			3242	
Flt Permitted					0.99		0.95	1.00			1.00	
Satd. Flow (perm)					6351		1593	3539			3242	
Volume (vph)	0	0	0	242	1492	21	45	57	0	0	33	34
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	263	1622	23	49	62	0	0	36	37
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	30	0
Lane Group Flow (vph)	0	0	0	0	1907	0	49	62	0	0	43	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split			Prot					
Protected Phases				6	6		3	8			4	
Permitted Phases												
Actuated Green, G (s)					56.4		3.2	15.6			8.4	
Effective Green, g (s)					56.4		3.2	15.6			8.4	
Actuated g/C Ratio					0.70		0.04	0.20			0.11	
Clearance Time (s)					4.0		4.0	4.0			4.0	
Vehicle Extension (s)					5.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					4477		64	690			340	
v/s Ratio Prot					c0.30		c0.03	0.02			c0.02	
v/s Ratio Perm												
v/c Ratio					0.43		0.77	0.09			0.13	
Uniform Delay, d1					5.0		38.0	26.4			32.5	
Progression Factor					1.00		1.00	1.40			1.00	
Incremental Delay, d2					0.3		40.4	0.1			0.2	
Delay (s)					5.3		78.5	37.1			32.6	
Level of Service					A		E	D			C	
Approach Delay (s)		0.0			5.3			55.4			32.6	
Approach LOS		A			A			E			C	

Intersection Summary			
HCM Average Control Delay	8.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
18: Tehama St. & Market St.(SR 273)

AM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)										4.0	4.0	
Lane Util. Factor										0.97	1.00	
Frpb, ped/bikes										1.00	0.97	
Flpb, ped/bikes										1.00	1.00	
Frt										1.00	0.85	
Flt Protected										0.95	1.00	
Satd. Flow (prot)										3433	1539	
Flt Permitted										0.95	1.00	
Satd. Flow (perm)										3433	1539	
Volume (vph)	0	0	0	0	0	0	0	0	0	1127	17	736
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	1225	18	800
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	173	113	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	1052	705	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Turn Type										Split		
Protected Phases										2	2	
Permitted Phases												
Actuated Green, G (s)										68.7	68.7	
Effective Green, g (s)										68.7	68.7	
Actuated g/C Ratio										0.86	0.86	
Clearance Time (s)										4.0	4.0	
Vehicle Extension (s)										5.0	5.0	
Lane Grp Cap (vph)										2948	1322	
v/s Ratio Prot										0.36	c0.53	
v/s Ratio Perm												
v/c Ratio										0.36	0.53	
Uniform Delay, d1										1.2	1.5	
Progression Factor										0.46	6.80	
Incremental Delay, d2										0.1	0.6	
Delay (s)										0.7	10.6	
Level of Service										A	B	
Approach Delay (s)		0.0			0.0			0.0			4.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	4.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
19: Tehama St. & Pine St.

AM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0			
Lane Util. Factor		0.91						0.86	0.86			
Frpb, ped/bikes		1.00						1.00	0.98			
Flpb, ped/bikes		1.00						1.00	1.00			
Frt		1.00						1.00	0.85			
Flt Protected		1.00						1.00	1.00			
Satd. Flow (prot)		5079						4806	1335			
Flt Permitted		1.00						1.00	1.00			
Satd. Flow (perm)		5079						4806	1335			
Volume (vph)	28	1121	0	0	0	0	0	818	181	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	1218	0	0	0	0	0	889	197	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	11	0	0	0
Lane Group Flow (vph)	0	1248	0	0	0	0	0	889	186	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm			
Protected Phases	4	4						2			6	
Permitted Phases									2			
Actuated Green, G (s)		34.0						38.0	38.0			
Effective Green, g (s)		34.0						38.0	38.0			
Actuated g/C Ratio		0.42						0.48	0.48			
Clearance Time (s)		4.0						4.0	4.0			
Vehicle Extension (s)		3.0						5.0	5.0			
Lane Grp Cap (vph)		2159						2283	634			
v/s Ratio Prot		c0.25						c0.18				
v/s Ratio Perm									0.15			
v/c Ratio		0.58						0.39	0.29			
Uniform Delay, d1		17.5						13.5	12.8			
Progression Factor		0.41						1.00	1.00			
Incremental Delay, d2		1.1						0.5	1.2			
Delay (s)		8.3						14.0	14.0			
Level of Service		A						B	B			
Approach Delay (s)		8.3			0.0			14.0			0.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
20: Tehama St. & East St.

AM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1710	1900	1900
Total Lost time (s)		4.0						4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91						0.91	0.91	1.00	0.95	
Frpb, ped/bikes		1.00						0.99	0.98	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	1.00	1.00	
Frt		0.97						0.90	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		4929						3018	1416	1593	3539	
Flt Permitted		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (perm)		4929						3018	1416	1593	3539	
Volume (vph)	30	1085	240	0	0	0	0	68	269	14	263	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1179	261	0	0	0	0	74	292	15	286	0
RTOR Reduction (vph)	0	25	0	0	0	0	0	100	100	0	0	0
Lane Group Flow (vph)	0	1448	0	0	0	0	0	120	46	15	286	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm	Prot		
Protected Phases	2	2						8		7	4	
Permitted Phases									8			
Actuated Green, G (s)		56.9						10.1	10.1	1.0	15.1	
Effective Green, g (s)		56.9						10.1	10.1	1.0	15.1	
Actuated g/C Ratio		0.71						0.13	0.13	0.01	0.19	
Clearance Time (s)		4.0						4.0	4.0	4.0	4.0	
Vehicle Extension (s)		5.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		3506						381	179	20	668	
v/s Ratio Prot		c0.30						0.07		0.01	c0.08	
v/s Ratio Perm									0.10			
v/c Ratio		0.41						0.32	0.26	0.75	0.43	
Uniform Delay, d1		4.7						31.8	31.6	39.4	28.6	
Progression Factor		2.48						1.00	1.00	1.18	1.36	
Incremental Delay, d2		0.3						0.5	0.8	87.7	0.4	
Delay (s)		12.0						32.3	32.3	134.2	39.4	
Level of Service		B						C	C	F	D	
Approach Delay (s)		12.0			0.0			32.3			44.1	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3457		1593	3515		1593	3465		1593	3318	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3457		1593	3515		1593	3465		1593	3318	
Volume (vph)	145	718	115	54	607	26	170	299	42	52	397	235
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	158	780	125	59	660	28	185	325	46	57	432	255
RTOR Reduction (vph)	0	16	0	0	4	0	0	13	0	0	103	0
Lane Group Flow (vph)	158	889	0	59	684	0	185	358	0	57	584	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.3	25.2		3.9	18.8		11.9	30.7		4.1	22.9	
Effective Green, g (s)	10.3	25.2		3.9	18.8		11.9	30.7		4.1	22.9	
Actuated g/C Ratio	0.13	0.32		0.05	0.24		0.15	0.38		0.05	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	205	1090		78	827		237	1331		82	951	
v/s Ratio Prot	c0.10	c0.26		0.04	0.20		c0.12	0.11		0.04	c0.21	
v/s Ratio Perm												
v/c Ratio	0.77	0.82		0.76	0.83		0.78	0.27		0.70	0.61	
Uniform Delay, d1	33.7	25.2		37.5	29.0		32.7	16.9		37.3	24.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.3	4.8		33.5	6.8		15.3	0.5		22.5	3.0	
Delay (s)	49.9	30.0		71.0	35.8		48.0	17.4		59.8	27.6	
Level of Service	D	C		E	D		D	B		E	C	
Approach Delay (s)		33.0			38.6			27.6			30.1	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	32.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	79.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			0.99			0.98	
Flpb, ped/bikes	0.79	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.96		1.00	1.00			0.93			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1245	3322		1577	1844			1651			1624	
Flt Permitted	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (perm)	1245	3322		1577	1844			1651			1624	
Volume (vph)	2	1069	405	267	308	1	108	1	124	2	0	4
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	1162	440	290	335	1	117	1	135	2	0	4
RTOR Reduction (vph)	0	24	0	0	0	0	0	27	0	0	4	0
Lane Group Flow (vph)	2	1578	0	290	336	0	0	225	0	0	2	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	0.7	73.5		27.1	99.9			21.1			4.1	
Effective Green, g (s)	0.7	73.5		27.1	99.9			21.1			4.1	
Actuated g/C Ratio	0.00	0.52		0.19	0.70			0.15			0.03	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	6	1722		301	1299			246			47	
v/s Ratio Prot	0.00	c0.48		c0.18	0.18			c0.15			c0.00	
v/s Ratio Perm												
v/c Ratio	0.33	0.92		0.96	0.26			0.92			0.05	
Uniform Delay, d1	70.3	31.3		56.9	7.6			59.5			66.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	30.0	8.1		41.7	0.1			35.6			0.4	
Delay (s)	100.3	39.4		98.6	7.7			95.1			67.3	
Level of Service	F	D		F	A			F			E	
Approach Delay (s)		39.5			49.8			95.1			67.3	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM Average Control Delay	47.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	141.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Salt Creek Heights
23: Placer St. & Pleasant St.

AM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.98		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1843		1577	1790		1549	1540		1577	1517	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1843		1577	1790		1549	1540		1577	1517	
Volume (vph)	116	1338	5	12	315	58	4	1	26	153	4	87
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	126	1454	5	13	342	63	4	1	28	166	4	95
RTOR Reduction (vph)	0	0	0	0	4	0	0	27	0	0	81	0
Lane Group Flow (vph)	126	1459	0	13	401	0	4	2	0	166	18	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	15.1	99.7		1.5	86.1		0.7	6.8		14.1	20.2	
Effective Green, g (s)	15.1	99.7		1.5	86.1		0.7	6.8		14.1	20.2	
Actuated g/C Ratio	0.11	0.72		0.01	0.62		0.01	0.05		0.10	0.15	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	172	1331		17	1116		8	76		161	222	
v/s Ratio Prot	c0.08	c0.79		0.01	0.23		0.00	0.02		c0.11	c0.07	
v/s Ratio Perm												
v/c Ratio	0.73	1.10		0.76	0.36		0.50	0.03		1.03	0.08	
Uniform Delay, d1	59.5	19.2		68.1	12.6		68.5	62.5		62.0	50.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.9	55.3		106.9	0.2		41.8	0.2		79.3	0.2	
Delay (s)	74.4	74.5		175.0	12.8		110.3	62.7		141.3	51.1	
Level of Service	E	E		F	B		F	E		F	D	
Approach Delay (s)		74.5			17.9			68.5			107.6	
Approach LOS		E			B			E			F	

Intersection Summary			
HCM Average Control Delay	68.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	138.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Salt Creek Heights
24: Placer St. & Buenaventura Blvd.

AM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3539	1530	1593	1863	1530	1593	1863	1551	1593	3370	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1593	3539	1530	1593	1863	1530	1593	1863	1551	1593	3370	
Volume (vph)	181	948	161	123	249	95	133	420	178	241	224	79
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	197	1030	175	134	271	103	145	457	193	262	243	86
RTOR Reduction (vph)	0	0	49	0	0	79	0	0	119	0	38	0
Lane Group Flow (vph)	197	1030	126	134	271	24	145	457	74	262	291	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	13.9	27.0	27.0	8.0	21.1	21.1	12.6	23.4	23.4	15.0	25.8	
Effective Green, g (s)	13.9	27.0	27.0	8.0	21.1	21.1	12.6	23.4	23.4	15.0	25.8	
Actuated g/C Ratio	0.16	0.30	0.30	0.09	0.24	0.24	0.14	0.26	0.26	0.17	0.29	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	248	1069	462	143	440	361	225	488	406	267	973	
v/s Ratio Prot	c0.12	c0.29		0.08	0.15		0.09	c0.25		c0.16	0.10	
v/s Ratio Perm			0.11			0.07			0.12			
v/c Ratio	0.79	0.96	0.27	0.94	0.62	0.07	0.64	0.94	0.18	0.98	0.30	
Uniform Delay, d1	36.4	30.7	23.7	40.4	30.5	26.5	36.3	32.3	25.6	37.1	24.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	15.9	19.2	0.3	55.9	2.6	0.1	6.2	25.5	0.2	49.6	0.2	
Delay (s)	52.3	49.9	24.1	96.4	33.1	26.6	42.5	57.8	25.8	86.7	24.9	
Level of Service	D	D	C	F	C	C	D	E	C	F	C	
Approach Delay (s)		47.0			48.5			47.2			52.3	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	48.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	158	23	28	4	3	10	10	611	8	15	423	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	172	25	30	4	3	11	11	664	9	16	460	30
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1201	1197	470	1231	1219	674	495			678		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1201	1197	470	1231	1219	674	495			678		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	86	95	97	98	98	99			98		
cM capacity (veh/h)	149	178	587	125	173	449	1059			906		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	227	18	11	664	9	16	460	30
Volume Left	172	4	11	0	0	16	0	0
Volume Right	30	11	0	0	9	0	0	30
cSH	169	238	1059	1700	1700	906	1700	1700
Volume to Capacity	1.34	0.08	0.01	0.39	0.01	0.02	0.27	0.02
Queue Length 95th (ft)	338	6	1	0	0	1	0	0
Control Delay (s)	240.3	21.4	8.4	0.0	0.0	9.0	0.0	0.0
Lane LOS	F	C	A			A		
Approach Delay (s)	240.3	21.4	0.1			0.3		
Approach LOS	F	C						

Intersection Summary				
Average Delay	38.5			
Intersection Capacity Utilization	57.2%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	1	604	369	11	27	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	657	401	12	29	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	413				1060	401
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	413				1060	401
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				88	100
cM capacity (veh/h)	1140				247	647

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	1	657	401	12	29	2
Volume Left	1	0	0	0	29	0
Volume Right	0	0	0	12	0	2
cSH	1140	1700	1700	1700	247	647
Volume to Capacity	0.00	0.39	0.24	0.01	0.12	0.00
Queue Length 95th (ft)	0	0	0	0	10	0
Control Delay (s)	8.2	0.0	0.0	0.0	21.5	10.6
Lane LOS	A				C	B
Approach Delay (s)	0.0		0.0		20.8	
Approach LOS					C	

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	41.8%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	33	13	58	153	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	36	14	63	166	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	258	166	166			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	258	166	166			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	99			
cM capacity (veh/h)	722	875	1406			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	36	77	166
Volume Left	0	14	0
Volume Right	36	0	0
cSH	875	1406	1700
Volume to Capacity	0.04	0.01	0.10
Queue Length 95th (ft)	3	1	0
Control Delay (s)	9.3	1.5	0.0
Lane LOS	A	A	
Approach Delay (s)	9.3	1.5	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	24.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total (vph)	0	0	0	0	0	0
Volume Left (vph)	0	0	0	0	0	0
Volume Right (vph)	0	0	0	0	0	0
Hadj (s)	0.00	0.00	0.00	0.00	0.00	0.00
Departure Headway (s)	4.5	4.5	4.5	4.5	4.5	4.5
Degree Utilization, x	0.00	0.00	0.00	0.00	0.00	0.00
Capacity (veh/h)	806	806	806	806	806	806
Control Delay (s)	6.3	6.3	6.3	6.3	6.3	6.3
Approach Delay (s)	0.0		0.0		0.0	
Approach LOS	A		A		A	

Intersection Summary			
Delay	0.0		
HCM Level of Service	A		
Intersection Capacity Utilization	16.4%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection has too many lanes per leg.
HCM All-Way analysis is limited to two lanes per leg.
Channelized right turn lanes are not counted.

Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frpb, ped/bikes						
Flpb, ped/bikes						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Volume (vph)	0	0	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Confl. Peds. (#/hr)		5	5		5	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type						
Protected Phases						
Permitted Phases						
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0			0.0	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM Average Control Delay	0.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	8.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
1: Eureka Way(SR 299) & Lower Springs Rd.

PM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	10	431	2	41	448	94	4	0	30	57	0	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	468	2	45	487	102	4	0	33	62	0	7
Pedestrians		5			5			5				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	589			476			1084	1175	460	1104	1073	492
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	589			476			1084	1175	480	1104	1073	492
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			96			98	100	94	63	100	99
cM capacity (veh/h)	981			1082			183	180	581	169	207	572

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	11	471	45	487	102	37	41	27
Volume Left	11	0	45	0	0	4	41	21
Volume Right	0	2	0	0	102	33	0	7
cSH	981	1700	1082	1700	1700	462	169	203
Volume to Capacity	0.01	0.28	0.04	0.29	0.06	0.08	0.24	0.13
Queue Length 95th (ft)	1	0	3	0	0	6	23	11
Control Delay (s)	8.7	0.0	8.5	0.0	0.0	13.5	33.1	25.4
Lane LOS	A		A			B	D	D
Approach Delay (s)	0.2		0.6			13.5	30.1	
Approach LOS						B	D	

Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	45.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Salt Creek Heights
2: Eureka Way & Buenaventura Blvd.

PM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.91	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00		0.97	
Satd. Flow (prot)	1586	3539	1556	1593	3539	1537	1513	1642	1477		1777	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00		0.97	
Satd. Flow (perm)	1586	3539	1556	1593	3539	1537	1513	1642	1477		1777	
Volume (vph)	11	437	216	298	526	107	248	58	248	54	32	13
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	475	235	324	572	116	270	63	270	59	35	14
RTOR Reduction (vph)	0	0	175	0	0	62	0	0	224	0	7	0
Lane Group Flow (vph)	12	475	60	324	572	54	157	176	46	0	101	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	0.6	17.4	17.4	14.9	31.7	31.7	11.6	11.6	11.6		7.8	
Effective Green, g (s)	0.6	17.4	17.4	14.9	31.7	31.7	11.6	11.6	11.6		7.8	
Actuated g/C Ratio	0.01	0.26	0.26	0.22	0.47	0.47	0.17	0.17	0.17		0.12	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	14	910	400	351	1657	720	259	281	253		205	
v/s Ratio Prot	0.01	0.13		c0.20	0.16		0.10	0.11			c0.06	
v/s Ratio Perm			0.15			0.08			0.18			
v/c Ratio	0.86	0.52	0.15	0.92	0.35	0.08	0.61	0.63	0.18		0.49	
Uniform Delay, d1	33.5	21.6	19.4	25.8	11.4	9.9	25.9	26.0	24.0		28.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	164.6	0.5	0.2	29.1	0.1	0.0	4.0	4.3	0.3		1.9	
Delay (s)	198.1	22.1	19.6	55.0	11.5	10.0	29.9	30.4	24.3		30.0	
Level of Service	F	C	B	D	B	A	C	C	C		C	
Approach Delay (s)		24.2			25.3			27.5			30.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	67.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	46	650	955	108	90	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	707	1038	117	98	39
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		913				
pX, platoon unblocked						
vC, conflicting volume	1160				1501	529
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1160				1501	529
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				4	92
cM capacity (veh/h)	595				102	490

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	50	353	353	519	519	117	137
Volume Left	50	0	0	0	0	0	98
Volume Right	0	0	0	0	0	117	39
cSH	595	1700	1700	1700	1700	1700	132
Volume to Capacity	0.08	0.21	0.21	0.31	0.31	0.07	1.04
Queue Length 95th (ft)	7	0	0	0	0	0	187
Control Delay (s)	11.6	0.0	0.0	0.0	0.0	0.0	153.5
Lane LOS	B						F
Approach Delay (s)	0.8			0.0			153.5
Approach LOS							F

Intersection Summary			
Average Delay	10.5		
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	26	668	945	16	35	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	726	1027	17	38	43
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1050				1465	532
vC1, stage 1 conf vol					1041	
vC2, stage 2 conf vol					425	
vCu, unblocked vol	1050				1465	532
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				83	91
cM capacity (veh/h)	656				226	488

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	28	363	363	685	360	82
Volume Left	28	0	0	0	0	38
Volume Right	0	0	0	0	17	43
cSH	656	1700	1700	1700	1700	317
Volume to Capacity	0.04	0.21	0.21	0.40	0.21	0.26
Queue Length 95th (ft)	3	0	0	0	0	25
Control Delay (s)	10.7	0.0	0.0	0.0	0.0	20.3
Lane LOS	B					C
Approach Delay (s)	0.4			0.0		20.3
Approach LOS						C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	800	14	68	909	13	102
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	870	15	74	988	14	111
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume			890		1529	452
vC1, stage 1 conf vol					882	
vC2, stage 2 conf vol					647	
vCu, unblocked vol			890		1529	452
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			90		94	80
cM capacity (veh/h)			748		222	547

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	580	305	74	494	494	125
Volume Left	0	0	74	0	0	14
Volume Right	0	15	0	0	0	111
cSH	1700	1700	748	1700	1700	470
Volume to Capacity	0.34	0.18	0.10	0.29	0.29	0.27
Queue Length 95th (ft)	0	0	8	0	0	27
Control Delay (s)	0.0	0.0	10.3	0.0	0.0	15.4
Lane LOS			B			C
Approach Delay (s)	0.0		0.7			15.4
Approach LOS						C

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	45.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (prot)	1593	3531		1593	3539	1541		1746		1513	1612	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (perm)	1593	3531		1593	3539	1541		1746		1513	1612	
Volume (vph)	60	725	9	22	962	23	19	25	21	37	4	11
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	788	10	24	1046	25	21	27	23	40	4	12
RTOR Reduction (vph)	0	1	0	0	0	13	0	21	0	0	11	0
Lane Group Flow (vph)	65	797	0	24	1046	12	0	50	0	27	18	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						
Actuated Green, G (s)	2.1	25.5		1.3	24.7	24.7		4.1		3.9	3.9	
Effective Green, g (s)	2.1	25.5		1.3	24.7	24.7		4.1		3.9	3.9	
Actuated g/C Ratio	0.04	0.50		0.03	0.49	0.49		0.08		0.08	0.08	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	66	1772		41	1721	749		141		116	124	
v/s Ratio Prot	c0.04	0.23		0.02	c0.30			c0.04		0.02	c0.02	
v/s Ratio Perm						0.02						
v/c Ratio	0.98	0.45		0.59	0.61	0.02		0.35		0.23	0.14	
Uniform Delay, d1	24.3	8.1		24.5	9.5	6.8		22.1		22.0	21.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	104.8	0.2		19.5	0.6	0.0		1.5		1.0	0.5	
Delay (s)	129.1	8.3		44.0	10.1	6.8		23.6		23.1	22.4	
Level of Service	F	A		D	B	A		C		C	C	
Approach Delay (s)		17.4			10.8			23.6			22.7	
Approach LOS		B			B			C			C	

Intersection Summary				
HCM Average Control Delay	14.3	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.58			
Actuated Cycle Length (s)	50.8	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	51.2%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.97	1.00
Satd. Flow (prot)	1591	3533		1593	3501			1803	1556		1802	1556
Flt Permitted	0.95	1.00		0.95	1.00			0.97	1.00		0.97	1.00
Satd. Flow (perm)	1591	3533		1593	3501			1803	1556		1802	1556
Volume (vph)	18	767	7	58	1058	69	15	7	38	57	28	27
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	834	8	63	1150	75	16	8	41	62	30	29
RTOR Reduction (vph)	0	1	0	0	4	0	0	0	38	0	0	26
Lane Group Flow (vph)	20	841	0	63	1221	0	0	24	3	0	92	3
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	0.5	26.9		2.3	28.7			4.1	4.1		4.8	4.8
Effective Green, g (s)	0.5	26.9		2.3	28.7			4.1	4.1		4.8	4.8
Actuated g/C Ratio	0.01	0.50		0.04	0.53			0.08	0.08		0.09	0.09
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	15	1757		68	1857			137	118		160	138
v/s Ratio Prot	0.01	0.24		c0.04	c0.35			0.01			c0.05	
v/s Ratio Perm									0.03			0.02
v/c Ratio	1.33	0.48		0.93	0.66			0.18	0.03		0.57	0.02
Uniform Delay, d1	26.8	9.0		25.8	9.2			23.4	23.2		23.7	22.5
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	353.6	0.2		82.9	0.9			0.6	0.1		4.9	0.1
Delay (s)	380.4	9.2		108.8	10.0			24.0	23.2		28.6	22.6
Level of Service	F	A		F	B			C	C		C	C
Approach Delay (s)		17.8			14.8			23.5			27.1	
Approach LOS		B			B			C			C	

Intersection Summary				
HCM Average Control Delay	16.8	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.59			
Actuated Cycle Length (s)	54.1	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	56.4%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	163	1085	936	9	5	250
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	177	1179	1017	10	5	272
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)		771	933			
pX, platoon unblocked						
vC, conflicting volume	1032				1976	524
vC1, stage 1 conf vol					1027	
vC2, stage 2 conf vol					949	
vCu, unblocked vol	1032				1976	524
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	73				96	45
cM capacity (veh/h)	666				142	494

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	177	590	590	678	349	277
Volume Left	177	0	0	0	0	5
Volume Right	0	0	0	0	10	272
cSH	666	1700	1700	1700	1700	471
Volume to Capacity	0.27	0.35	0.35	0.40	0.21	0.59
Queue Length 95th (ft)	27	0	0	0	0	93
Control Delay (s)	12.4	0.0	0.0	0.0	0.0	23.0
Lane LOS	B					C
Approach Delay (s)	1.6			0.0		23.0
Approach LOS						C

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

Salt Creek Heights
9: Eureka Way & West St.

PM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	899	13	1	971	100	5	46	16	59	0	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	977	14	1	1055	109	5	50	17	64	0	8
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1263			441							
pX, platoon unblocked												
vC, conflicting volume	1169			996			1543	2171	506	1664	2124	592
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1169			996			1543	2171	506	1664	2124	592
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			93	0	97	0	100	98
cM capacity (veh/h)	591			687			75	45	508	0	48	446

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	5	651	340	1	704	461	73	72
Volume Left	5	0	0	1	0	0	5	64
Volume Right	0	0	14	0	0	109	17	8
cSH	591	1700	1700	687	1700	1700	60	0
Volume to Capacity	0.01	0.38	0.20	0.00	0.41	0.27	1.21	Err
Queue Length 95th (ft)	1	0	0	0	0	0	152	Err
Control Delay (s)	11.2	0.0	0.0	10.2	0.0	0.0	299.5	Err
Lane LOS	B			B			F	F
Approach Delay (s)	0.1			0.0			299.5	Err
Approach LOS							F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	47.6%	ICU Level of Service	A
Analysis Period (min)	15		

Salt Creek Heights
10: Eureka Way & Court St.

PM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1593	3539	1556	1593	3454		1593	1863	1557	1593	1806	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1593	3539	1556	1593	3454		1593	1863	1557	1593	1806	
Volume (vph)	89	654	180	71	760	121	183	301	177	85	170	39
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	711	196	77	848	132	199	327	192	92	185	42
RTOR Reduction (vph)	0	0	83	0	12	0	0	0	136	0	11	0
Lane Group Flow (vph)	97	711	113	77	968	0	199	327	56	92	216	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	14.3	39.4	39.4	11.6	36.7		4.5	22.0	22.0	4.0	22.0	
Effective Green, g (s)	13.8	39.9	39.9	11.1	37.2		4.0	22.0	22.0	4.0	22.0	
Actuated g/C Ratio	0.15	0.43	0.43	0.12	0.40		0.04	0.24	0.24	0.04	0.24	
Clearance Time (s)	3.5	4.5	4.5	3.5	4.5		3.5	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	236	1518	668	190	1382		69	441	368	69	427	
v/s Ratio Prot	c0.06	c0.20		0.05	c0.28		c0.12	c0.18		0.06	0.13	
v/s Ratio Perm			0.13						0.12			
v/c Ratio	0.41	0.47	0.17	0.41	0.70		2.88	0.74	0.15	1.33	0.50	
Uniform Delay, d1	35.9	19.0	16.3	37.9	23.3		44.5	32.9	28.1	44.5	30.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.2	1.0	0.5	1.4	3.0		886.0	6.6	0.2	220.9	0.9	
Delay (s)	37.1	20.0	16.9	39.3	26.2		930.5	39.5	28.3	265.4	31.7	
Level of Service	D	C	B	D	C		F	D	C	F	C	
Approach Delay (s)		21.1			27.2			283.5			99.1	
Approach LOS		C			C			F			F	

Intersection Summary			
HCM Average Control Delay	92.0	HCM Level of Service	F
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	262	73	46	475	259	280
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	285	79	50	516	282	304
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				713	990	
pX, platoon unblocked						
vC, conflicting volume	1060	444	591			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1060	444	591			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	87	95			
cM capacity (veh/h)	234	609	981			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	364	50	516	586
Volume Left	285	50	0	0
Volume Right	79	0	0	304
cSH	270	981	1700	1700
Volume to Capacity	1.35	0.05	0.30	0.34
Queue Length 95th (ft)	475	4	0	0
Control Delay (s)	216.6	8.9	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	216.6	0.8		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	52.3		
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.95			0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1593	3539	1555	1593	3526			3294			3200	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.98			0.99	
Satd. Flow (perm)	1593	3539	1555	1593	3526			3294			3200	
Volume (vph)	27	842	131	16	916	21	40	50	40	19	47	78
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	915	142	17	996	23	43	54	43	21	51	85
RTOR Reduction (vph)	0	0	40	0	1	0	0	38	0	0	75	0
Lane Group Flow (vph)	29	915	102	17	1018	0	0	102	0	0	82	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2									
Actuated Green, G (s)	3.9	55.6	55.6	2.3	54.0			10.5			11.1	
Effective Green, g (s)	3.9	56.1	56.1	2.3	54.5			10.5			11.1	
Actuated g/C Ratio	0.04	0.58	0.58	0.02	0.57			0.11			0.12	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5			4.0			4.0	
Vehicle Extension (s)	2.5	5.0	5.0	2.5	5.0			3.0			3.0	
Lane Grp Cap (vph)	65	2068	909	38	2002			360			370	
v/s Ratio Prot	c0.02	0.26		0.01	c0.29			c0.04			c0.05	
v/s Ratio Perm			0.09									
v/c Ratio	0.45	0.44	0.11	0.45	0.51			0.28			0.22	
Uniform Delay, d1	45.0	11.2	8.9	46.2	12.6			39.3			38.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	3.5	0.7	0.2	6.0	0.9			0.4			0.3	
Delay (s)	48.5	11.9	9.1	52.2	13.5			39.7			38.8	
Level of Service	D	B	A	D	B			D			D	
Approach Delay (s)		12.5			14.2			39.7			38.8	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
13: Eureka Way & Market St.

PM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00		0.88	0.91	0.91	0.88					0.95	1.00
Frpb, ped/bikes	1.00		0.98	1.00	1.00	0.97					1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85					1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (prot)	1593		2732	1449	3390	2711					3539	1558
Flt Permitted	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (perm)	1593		2732	1449	3390	2711					3539	1558
Volume (vph)	410	0	551	67	730	768	0	0	0	0	815	156
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	446	0	599	73	793	835	0	0	0	0	886	170
RTOR Reduction (vph)	0	0	485	20	0	571	0	0	0	0	0	112
Lane Group Flow (vph)	446	0	114	53	793	264	0	0	0	0	886	58
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		custom	Split		Perm						Perm
Protected Phases	2			8	8						1	
Permitted Phases			2			8						1
Actuated Green, G (s)	15.2		15.2	25.3	25.3	25.3					27.5	27.5
Effective Green, g (s)	15.2		15.2	25.3	25.3	25.3					27.5	27.5
Actuated g/C Ratio	0.19		0.19	0.32	0.32	0.32					0.34	0.34
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0					5.0	5.0
Lane Grp Cap (vph)	303		519	458	1072	857					1217	536
v/s Ratio Prot	c0.28			0.05	0.23						c0.25	
v/s Ratio Perm			0.22			0.31						0.11
v/c Ratio	1.47		0.22	0.12	0.74	0.31					0.73	0.11
Uniform Delay, d1	32.4		27.4	19.4	24.4	20.7					23.0	17.9
Progression Factor	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Incremental Delay, d2	229.5		1.0	0.1	2.7	0.2					2.7	0.2
Delay (s)	261.9		28.4	19.5	27.1	20.9					25.7	18.1
Level of Service	F		C	B	C	C					C	B
Approach Delay (s)		128.0			23.8			0.0			24.5	
Approach LOS		F			C			A			C	

Intersection Summary			
HCM Average Control Delay	52.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
14: Court St. & Shasta St.

PM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.97		1.00	0.98		1.00	0.99	
Flt Protected		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3406			3336		1587	3469		1593	3518	
Flt Permitted		0.99			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3406			3336		1587	3469		1593	3518	
Volume (vph)	32	168	46	300	286	159	16	570	70	56	444	17
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	183	50	326	311	173	17	620	76	61	483	18
RTOR Reduction (vph)	0	27	0	0	31	0	0	11	0	0	3	0
Lane Group Flow (vph)	0	241	0	0	779	0	17	685	0	61	498	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		10.6			19.9		0.7	23.9		3.8	27.0	
Effective Green, g (s)		10.6			19.9		0.7	23.9		3.8	27.0	
Actuated g/C Ratio		0.14			0.27		0.01	0.32		0.05	0.36	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		487			895		15	1117		82	1280	
v/s Ratio Prot		c0.08			c0.24		0.01	c0.20		c0.04	c0.14	
v/s Ratio Perm												
v/c Ratio		0.50			0.87		1.13	0.61		0.74	0.39	
Uniform Delay, d1		29.3			25.9		36.8	21.2		34.7	17.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8			9.3		279.2	2.5		30.1	0.9	
Delay (s)		30.1			35.2		315.9	23.8		64.8	18.4	
Level of Service		C			D		F	C		E	B	
Approach Delay (s)		30.1			35.2			30.7			23.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	74.2	Sum of lost time (s)	20.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
15: Shasta St. & Market St.(SR 273)

PM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0						4.0	
Lane Util. Factor			0.88	0.97	0.95						0.91	
Frpb, ped/bikes			1.00	1.00	1.00						1.00	
Flpb, ped/bikes			1.00	1.00	1.00						1.00	
Frt			0.85	1.00	1.00						0.99	
Flt Protected			1.00	0.95	1.00						1.00	
Satd. Flow (prot)			2787	3433	3539						5041	
Flt Permitted			1.00	0.95	1.00						1.00	
Satd. Flow (perm)			2787	3433	3539						5041	
Volume (vph)	0	0	337	498	737	0	0	0	0	0	1263	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	366	541	801	0	0	0	0	0	1373	76
RTOR Reduction (vph)	0	0	54	25	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	312	516	801	0	0	0	0	0	1441	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type			custom	Split								
Protected Phases			7	8	8						6	
Permitted Phases												
Actuated Green, G (s)			15.5	21.3	21.3						30.7	
Effective Green, g (s)			15.5	21.3	21.3						31.2	
Actuated g/C Ratio			0.19	0.27	0.27						0.39	
Clearance Time (s)			4.0	4.0	4.0						4.5	
Vehicle Extension (s)			3.0	3.0	3.0						5.0	
Lane Grp Cap (vph)			540	914	942						1966	
v/s Ratio Prot			c0.13	0.16	c0.23						c0.29	
v/s Ratio Perm												
v/c Ratio			0.58	0.56	0.85						0.73	
Uniform Delay, d1			29.3	25.3	27.8						20.8	
Progression Factor			1.00	1.00	1.00						0.85	
Incremental Delay, d2			4.5	0.8	7.4						1.4	
Delay (s)			33.7	26.1	35.3						19.2	
Level of Service			C	C	D						B	
Approach Delay (s)		33.7			31.6			0.0			19.2	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM Average Control Delay	26.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
16: Shasta St. & Pine St.(SR273 NB)

PM peak hour conditions
Short Term (2015) Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0				
Lane Util. Factor					0.86	0.86		0.91				
Frpb, ped/bikes					1.00	0.98		1.00				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					0.97	0.85		1.00				
Flt Protected					1.00	1.00		0.99				
Satd. Flow (prot)					4654	1334		5031				
Flt Permitted					1.00	1.00		0.99				
Satd. Flow (perm)					4654	1334		5031				
Volume (vph)	0	0	0	0	793	731	280	1023	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	862	795	304	1112	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	27	222	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1032	376	0	1416	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type						Perm	Split					
Protected Phases					8		2	2			6	
Permitted Phases						8						
Actuated Green, G (s)					36.4	36.4		38.4				
Effective Green, g (s)					36.4	36.4		38.4				
Actuated g/C Ratio					0.40	0.40		0.43				
Clearance Time (s)					4.0	4.0		4.0				
Vehicle Extension (s)					3.0	3.0		5.0				
Lane Grp Cap (vph)					1882	540		2147				
v/s Ratio Prot					0.23			c0.28				
v/s Ratio Perm						0.45						
v/c Ratio					0.55	0.70		0.66				
Uniform Delay, d1					20.5	22.2		20.6				
Progression Factor					1.00	1.00		1.00				
Incremental Delay, d2					1.2	7.3		1.0				
Delay (s)					21.7	29.5		21.6				
Level of Service					C	C		C				
Approach Delay (s)		0.0			24.5			21.6			0.0	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1710	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0			4.0	
Lane Util. Factor					0.86		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.99	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					6315		1593	3539			3482	
Flt Permitted					0.99		0.95	1.00			1.00	
Satd. Flow (perm)					6315		1593	3539			3482	
Volume (vph)	0	0	0	292	1360	63	104	81	0	0	111	12
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	317	1478	68	113	88	0	0	121	13
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	0	0	0	1859	0	113	88	0	0	123	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split			Prot					
Protected Phases				6	6		3	8			4	
Permitted Phases												
Actuated Green, G (s)					54.4		4.3	17.6			9.3	
Effective Green, g (s)					54.4		4.3	17.6			9.3	
Actuated g/C Ratio					0.68		0.05	0.22			0.12	
Clearance Time (s)					4.0		4.0	4.0			4.0	
Vehicle Extension (s)					5.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					4294		86	779			405	
v/s Ratio Prot					c0.30		c0.07	0.02			c0.04	
v/s Ratio Perm												
v/c Ratio					0.43		1.31	0.11			0.30	
Uniform Delay, d1					5.8		37.8	25.0			32.4	
Progression Factor					1.00		1.00	1.53			1.00	
Incremental Delay, d2					0.3		195.3	0.1			0.4	
Delay (s)					6.1		233.2	38.2			32.8	
Level of Service					A		F	D			C	
Approach Delay (s)		0.0			6.1			147.8			32.8	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)										4.0	4.0	
Lane Util. Factor										0.97	1.00	
Frpb, ped/bikes										1.00	0.97	
Flpb, ped/bikes										1.00	1.00	
Frt										1.00	0.85	
Flt Protected										0.95	1.00	
Satd. Flow (prot)										3433	1532	
Flt Permitted										0.95	1.00	
Satd. Flow (perm)										3433	1532	
Volume (vph)	0	0	0	0	0	0	0	0	0	1486	0	679
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	1615	0	738
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	228	104	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	1387	634	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Turn Type										Split		
Protected Phases										2	2	
Permitted Phases												
Actuated Green, G (s)										68.7	68.7	
Effective Green, g (s)										68.7	68.7	
Actuated g/C Ratio										0.86	0.86	
Clearance Time (s)										4.0	4.0	
Vehicle Extension (s)										5.0	5.0	
Lane Grp Cap (vph)										2948	1316	
v/s Ratio Prot										0.47	c0.48	
v/s Ratio Perm												
v/c Ratio										0.47	0.48	
Uniform Delay, d1										1.3	1.4	
Progression Factor										0.98	1.00	
Incremental Delay, d2										0.2	0.5	
Delay (s)										1.5	1.8	
Level of Service										A	A	
Approach Delay (s)		0.0			0.0			0.0			1.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM Average Control Delay	1.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0			
Lane Util. Factor		0.91						0.86	0.86			
Frpb, ped/bikes		1.00						1.00	0.98			
Flpb, ped/bikes		1.00						1.00	1.00			
Frt		1.00						0.99	0.85			
Flt Protected		1.00						1.00	1.00			
Satd. Flow (prot)		5083						4775	1335			
Flt Permitted		1.00						1.00	1.00			
Satd. Flow (perm)		5083						4775	1335			
Volume (vph)	12	1463	0	0	0	0	0	1232	405	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	1590	0	0	0	0	0	1339	440	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	3	3	0	0	0
Lane Group Flow (vph)	0	1603	0	0	0	0	0	1388	385	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm			
Protected Phases	4	4						2			6	
Permitted Phases									2			
Actuated Green, G (s)		34.0						38.0	38.0			
Effective Green, g (s)		34.0						38.0	38.0			
Actuated g/C Ratio		0.42						0.48	0.48			
Clearance Time (s)		4.0						4.0	4.0			
Vehicle Extension (s)		3.0						5.0	5.0			
Lane Grp Cap (vph)		2160						2268	634			
v/s Ratio Prot		c0.32						c0.29				
v/s Ratio Perm									0.29			
v/c Ratio		0.74						0.61	0.61			
Uniform Delay, d1		19.3						15.5	15.5			
Progression Factor		0.55						1.00	1.00			
Incremental Delay, d2		2.1						1.2	4.3			
Delay (s)		12.7						16.8	19.8			
Level of Service		B						B	B			
Approach Delay (s)		12.7			0.0			17.4			0.0	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1710	1900	1900
Total Lost time (s)		4.0						4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91						0.91	0.91	1.00	0.95	
Frpb, ped/bikes		1.00						0.99	0.98	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	1.00	1.00	
Frt		0.99						0.91	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		5012						3052	1416	1593	3539	
Flt Permitted		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (perm)		5012						3052	1416	1593	3539	
Volume (vph)	17	1728	159	0	0	0	0	166	499	85	257	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	1878	173	0	0	0	0	180	542	92	279	0
RTOR Reduction (vph)	0	12	0	0	0	0	0	16	16	0	0	0
Lane Group Flow (vph)	0	2057	0	0	0	0	0	436	256	92	279	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm	Prot		
Protected Phases	2	2						8		7	4	
Permitted Phases									8			
Actuated Green, G (s)		45.0						18.0	18.0	5.0	27.0	
Effective Green, g (s)		45.0						18.0	18.0	5.0	27.0	
Actuated g/C Ratio		0.56						0.22	0.22	0.06	0.34	
Clearance Time (s)		4.0						4.0	4.0	4.0	4.0	
Vehicle Extension (s)		5.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		2819						687	319	100	1194	
v/s Ratio Prot		c0.41						0.15		c0.06	0.08	
v/s Ratio Perm									0.19			
v/c Ratio		0.73						0.63	0.80	0.92	0.23	
Uniform Delay, d1		13.0						28.0	29.3	37.3	19.1	
Progression Factor		1.86						1.00	1.00	1.01	0.91	
Incremental Delay, d2		1.2						1.9	13.4	62.8	0.1	
Delay (s)		25.3						29.9	42.7	100.6	17.5	
Level of Service		C						C	D	F	B	
Approach Delay (s)		25.3			0.0			34.7			38.1	
Approach LOS		C			A			C			D	

Intersection Summary			
HCM Average Control Delay	29.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3509		1593	3485		1593	3467		1593	3297	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1593	3509		1593	3485		1593	3467		1593	3297	
Volume (vph)	142	642	34	43	626	63	134	288	40	18	264	182
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	154	698	37	47	680	68	146	313	43	20	287	198
RTOR Reduction (vph)	0	5	0	0	10	0	0	12	0	0	138	0
Lane Group Flow (vph)	154	730	0	47	738	0	146	344	0	20	347	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.5	24.5		3.8	19.8		8.4	30.0		1.4	23.0	
Effective Green, g (s)	8.5	24.5		3.8	19.8		8.4	30.0		1.4	23.0	
Actuated g/C Ratio	0.11	0.32		0.05	0.26		0.11	0.40		0.02	0.30	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	179	1136		80	912		177	1374		29	1002	
v/s Ratio Prot	c0.10	0.21		0.03	c0.21		c0.09	0.10		0.01	c0.15	
v/s Ratio Perm												
v/c Ratio	0.86	0.64		0.59	0.81		0.82	0.25		0.69	0.35	
Uniform Delay, d1	33.0	21.9		35.2	26.2		32.9	15.3		36.9	20.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	31.9	1.3		10.6	5.4		25.7	0.4		51.3	0.9	
Delay (s)	64.9	23.1		45.7	31.6		58.6	15.8		88.2	21.5	
Level of Service	E	C		D	C		E	B		F	C	
Approach Delay (s)		30.4			32.4			28.2			24.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM Average Control Delay	29.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	75.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.93	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.97		1.00	1.00			0.94			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1466	3382		1577	1843			1664			1649	
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (perm)	1466	3382		1577	1843			1664			1649	
Volume (vph)	4	506	115	96	997	5	287	1	255	5	1	7
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	550	125	104	1084	5	312	1	277	5	1	8
RTOR Reduction (vph)	0	12	0	0	0	0	0	20	0	0	8	0
Lane Group Flow (vph)	4	663	0	104	1089	0	0	570	0	0	6	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	0.7	59.1		13.1	71.5			43.3			4.1	
Effective Green, g (s)	0.7	59.1		13.1	71.5			43.3			4.1	
Actuated g/C Ratio	0.01	0.44		0.10	0.53			0.32			0.03	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	8	1474		152	972			531			50	
v/s Ratio Prot	0.00	0.20		c0.07	c0.59			c0.35			c0.01	
v/s Ratio Perm												
v/c Ratio	0.50	0.45		0.68	1.12			1.07			0.12	
Uniform Delay, d1	67.3	26.8		59.2	32.0			46.2			64.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	41.8	0.2		12.0	67.9			60.0			1.1	
Delay (s)	109.0	27.1		71.3	100.0			106.1			65.1	
Level of Service	F	C		E	F			F			E	
Approach Delay (s)		27.5			97.5			106.1			65.1	
Approach LOS		C			F			F			E	

Intersection Summary			
HCM Average Control Delay	80.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	135.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.89		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1577	1842		1577	1828		1577	1614		1577	1518	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1577	1842		1577	1828		1577	1614		1577	1518	
Volume (vph)	31	508	5	21	1132	59	27	8	23	37	3	91
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	552	5	23	1230	64	29	9	25	40	3	99
RTOR Reduction (vph)	0	0	0	0	1	0	0	24	0	0	94	0
Lane Group Flow (vph)	34	557	0	23	1293	0	29	10	0	40	8	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	3.0	88.1		3.2	88.3		2.3	5.4		3.3	6.4	
Effective Green, g (s)	3.0	88.1		3.2	88.3		2.3	5.4		3.3	6.4	
Actuated g/C Ratio	0.03	0.76		0.03	0.76		0.02	0.05		0.03	0.06	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	41	1399		44	1391		31	75		45	84	
v/s Ratio Prot	c0.02	0.30		0.01	c0.71		0.02	c0.02		0.03	c0.07	
v/s Ratio Perm												
v/c Ratio	0.83	0.40		0.52	0.93		0.94	0.14		0.89	0.10	
Uniform Delay, d1	56.2	4.8		55.6	11.3		56.8	53.1		56.2	52.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	76.2	0.2		10.8	11.0		133.5	0.8		91.4	0.5	
Delay (s)	132.5	5.0		66.4	22.3		190.3	53.9		147.6	52.6	
Level of Service	F	A		E	C		F	D		F	D	
Approach Delay (s)		12.3			23.1			116.7			79.4	
Approach LOS		B			C			F			E	

Intersection Summary				
HCM Average Control Delay	26.7	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	116.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	79.5%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EB	EBT	EBR	WBL	WBT	WBR	NB	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1710	1900	1900	1710	1900	1900	1710	1900	1900	1710	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1593	3539	1530	1593	1863	1530	1593	1863	1552	1593	3311	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1593	3539	1530	1593	1863	1530	1593	1863	1552	1593	3311	
Volume (vph)	99	309	96	150	716	204	232	237	76	173	263	144
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	108	336	104	163	778	222	252	258	83	188	286	157
RTOR Reduction (vph)	0	0	69	0	0	83	0	0	68	0	85	0
Lane Group Flow (vph)	108	336	35	163	778	139	252	258	15	188	358	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	6.0	29.6	29.6	13.5	37.1	37.1	14.0	16.0	16.0	13.1	15.1	
Effective Green, g (s)	6.0	29.6	29.6	13.5	37.1	37.1	14.0	16.0	16.0	13.1	15.1	
Actuated g/C Ratio	0.07	0.34	0.34	0.15	0.42	0.42	0.16	0.18	0.18	0.15	0.17	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	108	1188	513	244	784	644	253	338	282	237	567	
v/s Ratio Prot	c0.07	0.09		0.10	c0.42		c0.16	c0.14		0.12	0.13	
v/s Ratio Perm			0.07			0.15			0.05			
v/c Ratio	1.00	0.28	0.07	0.67	0.99	0.22	1.00	0.76	0.05	0.79	0.63	
Uniform Delay, d1	41.1	21.5	19.9	35.2	25.4	16.3	37.1	34.3	29.8	36.2	34.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	86.6	0.1	0.1	6.8	30.1	0.2	55.1	9.8	0.1	16.5	2.3	
Delay (s)	127.7	21.6	20.0	42.0	55.5	16.5	92.2	44.1	29.9	52.7	36.3	
Level of Service	F	C	B	D	E	B	F	D	C	D	D	
Approach Delay (s)		42.2			46.2			62.6			41.2	
Approach LOS		D			D			E			D	

Intersection Summary				
HCM Average Control Delay	47.7	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.91			
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	83.7%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	75	5	25	3	8	10	45	424	5	10	527	129
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	5	27	3	9	11	49	461	5	11	573	140
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1178	1169	583	1193	1303	471	718			471		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1178	1169	583	1193	1303	471	718			471		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	44	97	95	98	94	98	94			99		
cM capacity (veh/h)	146	178	506	141	148	586	875			1081		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	114	23	49	461	5	11	573	140
Volume Left	82	3	49	0	0	11	0	0
Volume Right	27	11	0	0	5	0	0	140
cSH	178	227	875	1700	1700	1081	1700	1700
Volume to Capacity	0.64	0.10	0.06	0.27	0.00	0.01	0.34	0.08
Queue Length 95th (ft)	92	8	4	0	0	1	0	0
Control Delay (s)	55.6	22.6	9.4	0.0	0.0	8.4	0.0	0.0
Lane LOS	F	C	A			A		
Approach Delay (s)	55.6	22.6	0.9			0.1		
Approach LOS	F	C						

Intersection Summary				
Average Delay	5.4			
Intersection Capacity Utilization	53.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	3	641	581	32	20	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	697	632	35	22	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	666				1335	632
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	666				1335	632
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				87	100
cM capacity (veh/h)	918				168	479

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	3	697	632	35	22	2
Volume Left	3	0	0	0	22	0
Volume Right	0	0	0	35	0	2
cSH	918	1700	1700	1700	168	479
Volume to Capacity	0.00	0.41	0.37	0.02	0.13	0.00
Queue Length 95th (ft)	0	0	0	0	11	0
Control Delay (s)	8.9	0.0	0.0	0.0	29.6	12.6
Lane LOS	A				D	B
Approach Delay (s)	0.0		0.0		28.0	
Approach LOS					D	

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	43.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	24	38	138	75	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	26	41	150	82	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	314	82	82			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	314	82	82			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	97			
cM capacity (veh/h)	658	976	1510			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	26	191	82
Volume Left	0	41	0
Volume Right	26	0	0
cSH	976	1510	1700
Volume to Capacity	0.03	0.03	0.05
Queue Length 95th (ft)	2	2	0
Control Delay (s)	8.8	1.8	0.0
Lane LOS	A	A	
Approach Delay (s)	8.8	1.8	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	26.0%	ICU Level of Service	A
Analysis Period (min)	15		

Salt Creek Heights
1: Eureka Way(SR 299) & Lower Springs Rd.

AM peak hour conditions
Year 2030 No Project Conditions

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	507	5	21	421	3	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	551	5	23	458	3	72
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			562		1067	564
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			562		1067	564
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		99	86
cM capacity (veh/h)			1006		238	521

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	557	23	458	75
Volume Left	0	23	0	3
Volume Right	5	0	0	72
cSH	1700	1006	1700	495
Volume to Capacity	0.33	0.02	0.27	0.15
Queue Length 95th (ft)	0	2	0	13
Control Delay (s)	0.0	8.7	0.0	13.6
Lane LOS		A		B
Approach Delay (s)	0.0	0.4		13.6
Approach LOS				B

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

Salt Creek Heights
2: Eureka Way & Buenaventura Blvd.

AM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.91	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	0.99	0.98		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00		0.97	
Satd. Flow (prot)	1770	3539	1551	1770	3539	1530	1681	1574	1472		1789	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00		0.97	
Satd. Flow (perm)	1770	3539	1551	1770	3539	1530	1681	1574	1472		1789	
Volume (vph)	32	432	227	248	169	128	289	117	595	299	206	43
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	470	247	270	184	139	314	127	647	325	224	47
RTOR Reduction (vph)	0	0	206	0	0	98	0	21	350	0	3	0
Lane Group Flow (vph)	35	470	41	270	184	41	260	266	191	0	593	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	3.6	16.6	16.6	16.7	29.7	29.7	18.0	18.0	18.0		33.0	
Effective Green, g (s)	3.6	16.6	16.6	16.7	29.7	29.7	18.0	18.0	18.0		33.0	
Actuated g/C Ratio	0.04	0.17	0.17	0.17	0.30	0.30	0.18	0.18	0.18		0.33	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	64	586	257	295	1048	453	302	282	264		589	
v/s Ratio Prot	0.02	0.13		c0.15	0.05		0.15	0.18			c0.33	
v/s Ratio Perm			0.16			0.09			0.37			
v/c Ratio	0.55	0.80	0.16	0.92	0.18	0.09	0.86	0.94	0.73		1.01	
Uniform Delay, d1	47.5	40.3	35.9	41.1	26.2	25.5	39.9	40.6	38.8		33.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	9.2	7.8	0.3	31.1	0.1	0.1	21.3	38.1	9.5		38.6	
Delay (s)	56.8	48.1	36.2	72.2	26.3	25.6	61.3	78.8	48.3		72.3	
Level of Service	E	D	D	E	C	C	E	E	D		E	
Approach Delay (s)		44.6			47.0			59.4			72.3	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM Average Control Delay	55.8	HCM Level of Service	E
HCM Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	100.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	27	1442	612	45	132	56
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	1567	665	49	143	61
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		913				
pX, platoon unblocked						
vC, conflicting volume	719				1518	343
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	719				1518	343
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				0	91
cM capacity (veh/h)	874				105	648

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	29	784	784	333	333	49	204
Volume Left	29	0	0	0	0	0	143
Volume Right	0	0	0	0	0	49	61
cSH	874	1700	1700	1700	1700	1700	140
Volume to Capacity	0.03	0.46	0.46	0.20	0.20	0.03	1.46
Queue Length 95th (ft)	3	0	0	0	0	0	341
Control Delay (s)	9.3	0.0	0.0	0.0	0.0	0.0	299.2
Lane LOS	A						F
Approach Delay (s)	0.2			0.0			299.2
Approach LOS							F

Intersection Summary			
Average Delay	24.4		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	308	720	395	48	59	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	335	783	429	52	64	105
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	487				1526	251
vC1, stage 1 conf vol					460	
vC2, stage 2 conf vol					1066	
vCu, unblocked vol	487				1526	251
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	69				60	86
cM capacity (veh/h)	1068				160	743

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	335	391	391	286	195	170
Volume Left	335	0	0	0	0	64
Volume Right	0	0	0	0	52	105
cSH	1068	1700	1700	1700	1700	313
Volume to Capacity	0.31	0.23	0.23	0.17	0.11	0.54
Queue Length 95th (ft)	34	0	0	0	0	76
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	29.4
Lane LOS	A					D
Approach Delay (s)	3.0			0.0		29.4
Approach LOS						D

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1180	33	110	803	24	81
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1283	36	120	873	26	88
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume			1323		1986	669
vC1, stage 1 conf vol					1306	
vC2, stage 2 conf vol					681	
vCu, unblocked vol			1323		1986	669
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			77		81	78
cM capacity (veh/h)			510		139	394

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	855	463	120	436	436	114
Volume Left	0	0	120	0	0	26
Volume Right	0	36	0	0	0	88
cSH	1700	1700	510	1700	1700	278
Volume to Capacity	0.50	0.27	0.23	0.26	0.26	0.41
Queue Length 95th (ft)	0	0	23	0	0	48
Control Delay (s)	0.0	0.0	14.2	0.0	0.0	26.7
Lane LOS			B			D
Approach Delay (s)	0.0		1.7			26.7
Approach LOS						D

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.94		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (prot)	1770	3524		1770	3539	1537		1727		1681	1621	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (perm)	1770	3524		1770	3539	1537		1727		1681	1621	
Volume (vph)	56	1283	31	21	724	315	17	44	46	254	45	77
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	1395	34	23	787	342	18	48	50	276	49	84
RTOR Reduction (vph)	0	1	0	0	0	179	0	33	0	0	28	0
Lane Group Flow (vph)	61	1428	0	23	787	163	0	83	0	201	180	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						
Actuated Green, G (s)	3.8	35.6		1.2	33.0	33.0		7.0		9.6	9.6	
Effective Green, g (s)	3.8	35.6		1.2	33.0	33.0		7.0		9.6	9.6	
Actuated g/C Ratio	0.05	0.51		0.02	0.48	0.48		0.10		0.14	0.14	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	97	1808		31	1683	731		174		233	224	
v/s Ratio Prot	c0.03	c0.41		0.01	0.22			c0.07		0.12	c0.13	
v/s Ratio Perm						0.22						
v/c Ratio	0.63	0.79		0.74	0.47	0.22		0.48		0.86	0.80	
Uniform Delay, d1	32.1	13.8		33.9	12.3	10.7		29.5		29.3	29.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	12.1	2.4		64.1	0.2	0.2		2.0		26.4	18.3	
Delay (s)	44.2	16.2		98.1	12.5	10.8		31.5		55.6	47.3	
Level of Service	D	B		F	B	B		C		E	D	
Approach Delay (s)		17.4			13.7			31.5			51.4	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	69.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.95			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3534		1770	3325			1855	1549		1796	1549
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3534		1770	3325			1855	1549		1796	1549
Volume (vph)	246	1406	11	73	921	456	12	134	53	179	62	60
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	267	1528	12	79	1001	496	13	146	58	195	67	65
RTOR Reduction (vph)	0	0	0	0	54	0	0	0	51	0	0	49
Lane Group Flow (vph)	267	1540	0	79	1443	0	0	159	7	0	262	16
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	16.0	57.3		5.5	46.8			13.4	13.4		16.0	16.0
Effective Green, g (s)	16.0	57.3		5.5	46.8			13.4	13.4		16.0	16.0
Actuated g/C Ratio	0.15	0.53		0.05	0.43			0.12	0.12		0.15	0.15
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	262	1872		90	1438			230	192		266	229
v/s Ratio Prot	c0.15	0.44		0.04	c0.45			c0.09			c0.15	
v/s Ratio Perm									0.04			0.04
v/c Ratio	1.02	0.82		0.88	1.00			0.69	0.04		0.98	0.07
Uniform Delay, d1	46.1	21.2		51.0	30.7			45.4	41.7		46.0	39.7
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	60.6	3.1		56.2	24.5			8.6	0.1		50.6	0.1
Delay (s)	106.7	24.3		107.3	55.2			54.1	41.8		96.6	39.8
Level of Service	F	C		F	E			D	D		F	D
Approach Delay (s)		36.4			57.8			50.8			85.3	
Approach LOS		D			E			D			F	

Intersection Summary			
HCM Average Control Delay	49.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	108.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	113	1336	863	18	8	280
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	123	1452	938	20	9	304
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)		771	933			
pX, platoon unblocked						
vC, conflicting volume	963				1930	489
vC1, stage 1 conf vol					953	
vC2, stage 2 conf vol					977	
vCu, unblocked vol	963				1930	489
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	83				94	42
cM capacity (veh/h)	708				157	521

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	123	726	726	625	332	313
Volume Left	123	0	0	0	0	9
Volume Right	0	0	0	0	20	304
cSH	708	1700	1700	1700	1700	489
Volume to Capacity	0.17	0.43	0.43	0.37	0.20	0.64
Queue Length 95th (ft)	16	0	0	0	0	111
Control Delay (s)	11.2	0.0	0.0	0.0	0.0	24.5
Lane LOS	B					C
Approach Delay (s)	0.9			0.0		24.5
Approach LOS						C

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	1307	25	14	1243	197	35	2	15	30	17	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	1421	27	15	1351	214	38	2	16	33	18	2
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1263			441							
pX, platoon unblocked												
vC, conflicting volume	1570			1453			2168	3046	734	2233	2953	793
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1570			1453			2168	3046	734	2233	2953	793
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			97			0	82	95	0	0	99
cM capacity (veh/h)	414			460			0	12	360	18	14	329

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	3	947	501	15	901	664	57	53
Volume Left	3	0	0	15	0	0	38	33
Volume Right	0	0	27	0	0	214	16	2
cSH	414	1700	1700	460	1700	1700	0	17
Volume to Capacity	0.01	0.56	0.29	0.03	0.53	0.39	Err	3.14
Queue Length 95th (ft)	1	0	0	3	0	0	Err	Err
Control Delay (s)	13.8	0.0	0.0	13.1	0.0	0.0	Err	Err
Lane LOS	B			B			F	F
Approach Delay (s)	0.0			0.1			Err	Err
Approach LOS							F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1556	1770	3484		1770	1863	1557	1770	1831	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1556	1770	3484		1770	1863	1557	1770	1831	
Volume (vph)	105	1002	244	162	973	94	426	384	153	181	388	45
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	1089	265	176	1058	102	463	417	166	197	422	49
RTOR Reduction (vph)	0	0	86	0	8	0	0	0	95	0	6	0
Lane Group Flow (vph)	114	1089	179	176	1152	0	463	417	71	197	465	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	13.4	30.5	30.5	14.8	31.9		4.5	27.7	27.7	4.0	27.7	
Effective Green, g (s)	12.9	31.0	31.0	14.3	32.4		4.0	27.7	27.7	4.0	27.7	
Actuated g/C Ratio	0.14	0.33	0.33	0.15	0.35		0.04	0.30	0.30	0.04	0.30	
Clearance Time (s)	3.5	4.5	4.5	3.5	4.5		3.5	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	246	1180	519	272	1214		76	555	464	76	545	
v/s Ratio Prot	0.06	0.31		c0.10	c0.33		c0.26	0.22		0.11	c0.26	
v/s Ratio Perm			0.17						0.11			
v/c Ratio	0.46	0.92	0.34	0.65	0.95		6.09	0.75	0.15	2.59	0.85	
Uniform Delay, d1	36.9	29.8	23.4	37.0	29.5		44.5	29.5	24.0	44.5	30.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	13.2	1.8	5.2	16.2		2319.4	5.7	0.2	753.1	12.4	
Delay (s)	38.2	43.1	25.2	42.2	45.7		2363.9	35.2	24.2	797.6	43.1	
Level of Service	D	D	C	D	D		F	D	C	F	D	
Approach Delay (s)		39.5			45.2			1064.3			265.6	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM Average Control Delay	311.9	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	235	185	47	268	323	462
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	255	201	51	291	351	502
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				713	990	
pX, platoon unblocked						
vC, conflicting volume	1006	612	858			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1006	612	858			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	59	93			
cM capacity (veh/h)	248	489	779			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	457	51	291	853
Volume Left	255	51	0	0
Volume Right	201	0	0	502
cSH	317	779	1700	1700
Volume to Capacity	1.44	0.07	0.17	0.50
Queue Length 95th (ft)	612	5	0	0
Control Delay (s)	247.3	9.9	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	247.3	1.5		0.0
Approach LOS	F			

Intersection Summary				
Average Delay		68.6		
Intersection Capacity Utilization		76.9%	ICU Level of Service	D
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			0.99			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.97			0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1770	3539	1555	1770	3529			3300			3436	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.97			1.00	
Satd. Flow (perm)	1770	3539	1555	1770	3529			3300			3436	
Volume (vph)	19	1150	162	17	1073	19	51	19	21	7	218	45
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	1250	176	18	1166	21	55	21	23	8	237	49
RTOR Reduction (vph)	0	0	39	0	1	0	0	21	0	0	20	0
Lane Group Flow (vph)	21	1250	137	18	1186	0	0	78	0	0	274	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2									
Actuated Green, G (s)	2.4	53.4	53.4	2.3	53.3			9.1			14.7	
Effective Green, g (s)	2.4	53.9	53.9	2.3	53.8			9.1			14.7	
Actuated g/C Ratio	0.02	0.56	0.56	0.02	0.56			0.09			0.15	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5			4.0			4.0	
Vehicle Extension (s)	2.5	5.0	5.0	2.5	5.0			3.0			3.0	
Lane Grp Cap (vph)	44	1987	873	42	1978			313			526	
v/s Ratio Prot	c0.01	c0.35		0.01	0.34			c0.03			c0.09	
v/s Ratio Perm			0.11									
v/c Ratio	0.48	0.63	0.16	0.43	0.60			0.25			0.52	
Uniform Delay, d1	46.2	14.3	10.1	46.2	14.0			40.3			37.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	5.8	1.5	0.4	5.0	1.4			0.4			0.9	
Delay (s)	52.0	15.8	10.5	51.2	15.3			40.7			38.3	
Level of Service	D	B	B	D	B			D			D	
Approach Delay (s)		15.7			15.9			40.7			38.3	
Approach LOS		B			B			D			D	

Intersection Summary				
HCM Average Control Delay	18.8	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.55			
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	58.4%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00		0.88	0.91	0.91	0.88					0.95	1.00
Frpb, ped/bikes	1.00		0.98	1.00	1.00	0.97					1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85					1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (prot)	1770		2728	1610	3390	2711					3539	1558
Flt Permitted	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (perm)	1770		2728	1610	3390	2711					3539	1558
Volume (vph)	444	0	799	29	828	464	0	0	0	0	860	279
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	483	0	868	32	900	504	0	0	0	0	935	303
RTOR Reduction (vph)	0	0	676	18	0	341	0	0	0	0	0	193
Lane Group Flow (vph)	483	0	192	14	900	163	0	0	0	0	935	110
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		custom	Split		Perm						Perm
Protected Phases	2			8	8						1	
Permitted Phases			2			8						1
Actuated Green, G (s)	13.2		13.2	25.8	25.8	25.8					29.0	29.0
Effective Green, g (s)	13.2		13.2	25.8	25.8	25.8					29.0	29.0
Actuated g/C Ratio	0.16		0.16	0.32	0.32	0.32					0.36	0.36
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0					5.0	5.0
Lane Grp Cap (vph)	292		450	519	1093	874					1283	565
v/s Ratio Prot	0.27			0.02	c0.27						c0.26	
v/s Ratio Perm			0.32			0.19						0.19
v/c Ratio	1.65		0.43	0.03	0.82	0.19					0.73	0.19
Uniform Delay, d1	33.4		30.0	18.5	25.0	19.5					22.1	17.5
Progression Factor	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Incremental Delay, d2	309.2		2.9	0.0	5.1	0.1					2.6	0.4
Delay (s)	342.6		32.9	18.5	30.1	19.6					24.7	17.8
Level of Service	F		C	B	C	B					C	B
Approach Delay (s)		143.6			26.2			0.0			23.0	
Approach LOS		F			C			A			C	

Intersection Summary			
HCM Average Control Delay	64.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	0.98		1.00	0.99	
Flt Protected		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3369			3337		1765	3445		1770	3492	
Flt Permitted		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3369			3337		1765	3445		1770	3492	
Volume (vph)	15	150	60	615	372	220	13	455	78	45	650	56
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	163	65	668	404	239	14	495	85	49	707	61
RTOR Reduction (vph)	0	44	0	0	20	0	0	15	0	0	7	0
Lane Group Flow (vph)	0	200	0	0	1291	0	14	565	0	49	761	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		10.4			34.2		0.7	21.1		2.8	23.2	
Effective Green, g (s)		10.4			34.2		0.7	21.1		2.8	23.2	
Actuated g/C Ratio		0.12			0.40		0.01	0.25		0.03	0.27	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		415			1351		15	860		59	959	
v/s Ratio Prot		c0.07			c0.39		0.01	0.17		c0.03	c0.22	
v/s Ratio Perm												
v/c Ratio		0.48			0.96		0.93	0.66		0.83	0.79	
Uniform Delay, d1		34.5			24.4		41.9	28.5		40.6	28.4	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.9			15.0		197.1	3.9		60.6	6.7	
Delay (s)		35.4			39.4		239.0	32.4		101.2	35.2	
Level of Service		D			D		F	C		F	D	
Approach Delay (s)		35.4			39.4			37.2			39.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	38.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	84.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0						4.0	
Lane Util. Factor			0.88	0.97	0.95						0.91	
Frpb, ped/bikes			1.00	1.00	1.00						1.00	
Flpb, ped/bikes			1.00	1.00	1.00						1.00	
Frt			0.85	1.00	1.00						0.99	
Flt Protected			1.00	0.95	1.00						1.00	
Satd. Flow (prot)			2787	3433	3539						5035	
Flt Permitted			1.00	0.95	1.00						1.00	
Satd. Flow (perm)			2787	3433	3539						5035	
Volume (vph)	0	0	178	430	1021	0	0	0	0	0	1433	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	193	467	1110	0	0	0	0	0	1558	98
RTOR Reduction (vph)	0	0	71	62	0	0	0	0	0	0	9	0
Lane Group Flow (vph)	0	0	122	405	1110	0	0	0	0	0	1647	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type			custom	Split								
Protected Phases			7	8	8						6	
Permitted Phases												
Actuated Green, G (s)			12.5	22.0	22.0						33.0	
Effective Green, g (s)			12.5	22.0	22.0						33.5	
Actuated g/C Ratio			0.16	0.28	0.28						0.42	
Clearance Time (s)			4.0	4.0	4.0						4.5	
Vehicle Extension (s)			3.0	3.0	3.0						5.0	
Lane Grp Cap (vph)			435	944	973						2108	
v/s Ratio Prot			c0.07	0.14	c0.31						c0.33	
v/s Ratio Perm												
v/c Ratio			0.28	0.43	1.14						0.78	
Uniform Delay, d1			29.8	23.8	29.0						20.1	
Progression Factor			1.00	1.00	1.00						0.85	
Incremental Delay, d2			1.6	0.3	75.9						1.5	
Delay (s)			31.4	24.2	104.9						18.6	
Level of Service			C	C	F						B	
Approach Delay (s)		31.4			81.0			0.0			18.6	
Approach LOS		C			F			A			B	

Intersection Summary			
HCM Average Control Delay	48.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0				
Lane Util. Factor					0.86	0.86		0.91				
Frpb, ped/bikes					1.00	0.98		1.00				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					1.00	0.85		1.00				
Flt Protected					1.00	1.00		0.99				
Satd. Flow (prot)					4806	1334		5036				
Flt Permitted					1.00	1.00		0.99				
Satd. Flow (perm)					4806	1334		5036				
Volume (vph)	0	0	0	0	1300	562	182	755	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	1413	611	198	821	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	203	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1413	408	0	1019	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type						Perm	Split					
Protected Phases					8		2	2			6	
Permitted Phases						8						
Actuated Green, G (s)					45.7	45.7		29.1				
Effective Green, g (s)					45.7	45.7		29.1				
Actuated g/C Ratio					0.51	0.51		0.32				
Clearance Time (s)					4.0	4.0		4.0				
Vehicle Extension (s)					3.0	3.0		5.0				
Lane Grp Cap (vph)					2440	677		1628				
v/s Ratio Prot					0.29			c0.20				
v/s Ratio Perm						0.46						
v/c Ratio					0.58	0.60		0.63				
Uniform Delay, d1					15.4	15.7		25.8				
Progression Factor					1.00	1.00		1.00				
Incremental Delay, d2					1.0	4.0		1.1				
Delay (s)					16.5	19.7		26.9				
Level of Service					B	B		C				
Approach Delay (s)		0.0			17.4			26.9			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
17: Shasta St. & East St.

AM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0			4.0	
Lane Util. Factor					0.86		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			0.99	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					1.00		1.00	1.00			0.94	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					6350		1770	3539			3309	
Flt Permitted					0.99		0.95	1.00			1.00	
Satd. Flow (perm)					6350		1770	3539			3309	
Volume (vph)	0	0	0	278	1774	29	66	53	0	0	54	35
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	302	1928	32	72	58	0	0	59	38
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	0	0	0	2260	0	72	58	0	0	82	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split			Prot					
Protected Phases				6	6		3	8			4	
Permitted Phases												
Actuated Green, G (s)					55.9		3.2	16.1			8.9	
Effective Green, g (s)					55.9		3.2	16.1			8.9	
Actuated g/C Ratio					0.70		0.04	0.20			0.11	
Clearance Time (s)					4.0		4.0	4.0			4.0	
Vehicle Extension (s)					5.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					4437		71	712			368	
v/s Ratio Prot					c0.36		c0.04	0.02			c0.03	
v/s Ratio Perm												
v/c Ratio					0.51		1.01	0.08			0.22	
Uniform Delay, d1					5.6		38.4	25.9			32.4	
Progression Factor					1.00		1.05	1.53			1.00	
Incremental Delay, d2					0.4		109.0	0.0			0.3	
Delay (s)					6.1		149.5	39.7			32.7	
Level of Service					A		F	D			C	
Approach Delay (s)		0.0			6.1			100.5			32.7	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	12.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
18: Tehama St. & Market St.(SR 273)

AM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)							4.0		4.0	4.0	4.0	4.0
Lane Util. Factor							1.00		1.00	0.95	0.91	0.95
Frpb, ped/bikes							1.00		0.98	1.00	1.00	0.98
Flpb, ped/bikes							1.00		1.00	1.00	1.00	1.00
Frt							1.00		0.85	1.00	0.97	0.85
Flt Protected							0.95		1.00	0.95	0.96	1.00
Satd. Flow (prot)							1752		1530	1681	1583	1475
Flt Permitted							0.95		1.00	0.95	0.96	1.00
Satd. Flow (perm)							1752		1530	1681	1583	1475
Volume (vph)	0	0	0	0	0	0	48	0	31	1265	22	755
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	52	0	34	1375	24	821
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	30	170	120	151
Lane Group Flow (vph)	0	0	0	0	0	0	52	0	4	613	623	543
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Turn Type							Prot		custom	Split		Perm
Protected Phases							4			2	2	
Permitted Phases									4			2
Actuated Green, G (s)							9.4		9.4	62.6	62.6	62.6
Effective Green, g (s)							9.4		9.4	62.6	62.6	62.6
Actuated g/C Ratio							0.12		0.12	0.78	0.78	0.78
Clearance Time (s)							4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)							5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)							206		180	1315	1239	1154
v/s Ratio Prot							c0.03			0.47	0.47	
v/s Ratio Perm									0.02			0.47
v/c Ratio							0.25		0.02	0.47	0.50	0.47
Uniform Delay, d1							32.1		31.2	3.0	3.1	3.0
Progression Factor							1.00		1.00	2.18	1.23	2.34
Incremental Delay, d2							1.4		0.1	0.9	1.1	1.0
Delay (s)							33.5		31.3	7.4	4.9	8.0
Level of Service							C		C	A	A	A
Approach Delay (s)		0.0			0.0			32.6			6.8	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0			
Lane Util. Factor		0.91						0.86	0.86			
Frpb, ped/bikes		1.00						1.00	0.98			
Flpb, ped/bikes		1.00						1.00	1.00			
Frt		1.00						1.00	0.85			
Flt Protected		1.00						1.00	1.00			
Satd. Flow (prot)		5079						4806	1335			
Flt Permitted		1.00						1.00	1.00			
Satd. Flow (perm)		5079						4806	1335			
Volume (vph)	29	1254	0	0	0	0	0	882	189	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	1363	0	0	0	0	0	959	205	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	7	0	0	0
Lane Group Flow (vph)	0	1395	0	0	0	0	0	959	198	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm			
Protected Phases	4	4						2			6	
Permitted Phases									2			
Actuated Green, G (s)		34.0						38.0	38.0			
Effective Green, g (s)		34.0						38.0	38.0			
Actuated g/C Ratio		0.42						0.48	0.48			
Clearance Time (s)		4.0						4.0	4.0			
Vehicle Extension (s)		3.0						5.0	5.0			
Lane Grp Cap (vph)		2159						2283	634			
v/s Ratio Prot		c0.27						c0.20				
v/s Ratio Perm									0.15			
v/c Ratio		0.65						0.42	0.31			
Uniform Delay, d1		18.2						13.8	12.9			
Progression Factor		0.55						1.00	1.00			
Incremental Delay, d2		1.3						0.6	1.3			
Delay (s)		11.3						14.3	14.2			
Level of Service		B						B	B			
Approach Delay (s)		11.3			0.0			14.3			0.0	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91						0.91	0.91	1.00	0.95	
Frpb, ped/bikes		1.00						0.99	0.98	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	1.00	1.00	
Frt		0.97						0.91	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		4895						3052	1416	1770	3539	
Flt Permitted		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (perm)		4895						3052	1416	1770	3539	
Volume (vph)	26	1153	332	0	0	0	0	92	278	14	328	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	1253	361	0	0	0	0	100	302	15	357	0
RTOR Reduction (vph)	0	39	0	0	0	0	0	91	91	0	0	0
Lane Group Flow (vph)	0	1603	0	0	0	0	0	160	60	15	357	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm	Prot		
Protected Phases	2	2						8		7	4	
Permitted Phases									8			
Actuated Green, G (s)		55.7						11.3	11.3	1.0	16.3	
Effective Green, g (s)		55.7						11.3	11.3	1.0	16.3	
Actuated g/C Ratio		0.70						0.14	0.14	0.01	0.20	
Clearance Time (s)		4.0						4.0	4.0	4.0	4.0	
Vehicle Extension (s)		5.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		3408						431	200	22	721	
v/s Ratio Prot		c0.34						0.08		0.01	c0.10	
v/s Ratio Perm									0.11			
v/c Ratio		0.47						0.37	0.30	0.68	0.50	
Uniform Delay, d1		5.5						31.1	30.8	39.3	28.2	
Progression Factor		2.67						1.00	1.00	1.08	1.28	
Incremental Delay, d2		0.4						0.5	0.8	58.6	0.5	
Delay (s)		15.0						31.7	31.6	101.0	36.6	
Level of Service		B						C	C	F	D	
Approach Delay (s)		15.0			0.0			31.7			39.2	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	21.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
21: Placer St. & Court St.

AM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3462		1770	3515		1770	3477		1770	3351	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3462		1770	3515		1770	3477		1770	3351	
Volume (vph)	183	750	110	54	619	26	270	371	43	52	548	252
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	199	815	120	59	673	28	293	403	47	57	596	274
RTOR Reduction (vph)	0	14	0	0	4	0	0	10	0	0	65	0
Lane Group Flow (vph)	199	921	0	59	697	0	293	440	0	57	805	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.0	24.6		3.2	17.8		14.7	34.8		3.6	23.7	
Effective Green, g (s)	10.0	24.6		3.2	17.8		14.7	34.8		3.6	23.7	
Actuated g/C Ratio	0.12	0.30		0.04	0.22		0.18	0.42		0.04	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	1036		69	761		317	1472		78	966	
v/s Ratio Prot	c0.11	c0.27		0.03	0.20		c0.17	0.13		0.03	c0.26	
v/s Ratio Perm												
v/c Ratio	0.93	0.89		0.86	0.92		0.92	0.30		0.73	0.83	
Uniform Delay, d1	35.7	27.5		39.3	31.5		33.2	15.6		38.8	27.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	40.9	9.5		60.6	15.6		31.4	0.5		29.3	8.4	
Delay (s)	76.6	36.9		99.9	47.1		64.6	16.2		68.2	35.8	
Level of Service	E	D		F	D		E	B		E	D	
Approach Delay (s)		43.9			51.2			35.3			37.7	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	42.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
22: Placer St. & Airpark Dr.

AM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes		0.99		1.00	1.00			0.99			0.99	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.96		1.00	1.00			0.93			0.92	
Flt Protected		1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)		3306		1752	3503			1659			1637	
Flt Permitted		1.00		0.95	1.00			0.98			0.98	
Satd. Flow (perm)		3306		1752	3503			1659			1637	
Volume (vph)	0	1125	482	315	330	1	126	1	124	2	0	3
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1223	524	342	359	1	137	1	135	2	0	3
RTOR Reduction (vph)	0	30	0	0	0	0	0	23	0	0	3	0
Lane Group Flow (vph)	0	1717	0	342	360	0	0	250	0	0	2	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)		70.2		27.1	101.3			21.1			4.1	
Effective Green, g (s)		70.2		27.1	101.3			21.1			4.1	
Actuated g/C Ratio		0.51		0.20	0.73			0.15			0.03	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1676		343	2562			253			48	
v/s Ratio Prot		c0.53		c0.20	0.10			c0.16			c0.00	
v/s Ratio Perm												
v/c Ratio		1.02		1.00	0.14			0.99			0.04	
Uniform Delay, d1		34.2		55.7	5.6			58.6			65.3	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		28.5		47.5	0.0			52.8			0.4	
Delay (s)		62.6		103.1	5.6			111.4			65.7	
Level of Service		E		F	A			F			E	
Approach Delay (s)		62.6			53.1			111.4			65.7	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM Average Control Delay	65.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	138.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
23: Placer St. & Pleasant St.

AM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3502		1751	3418		1744	1550		1752	1552	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1752	3502		1751	3418		1744	1550		1752	1552	
Volume (vph)	145	1473	6	12	360	58	4	1	26	153	4	87
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	158	1601	7	13	391	63	4	1	28	166	4	95
RTOR Reduction (vph)	0	0	0	0	13	0	0	26	0	0	76	0
Lane Group Flow (vph)	158	1608	0	13	441	0	4	3	0	166	23	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.5	35.4		0.5	27.4		0.5	3.9		10.0	13.4	
Effective Green, g (s)	8.5	35.4		0.5	27.4		0.5	3.9		10.0	13.4	
Actuated g/C Ratio	0.13	0.54		0.01	0.42		0.01	0.06		0.15	0.20	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	226	1884		13	1423		13	92		266	316	
v/s Ratio Prot	c0.09	c0.46		0.01	0.13		0.00	0.02		c0.09	c0.06	
v/s Ratio Perm												
v/c Ratio	0.70	0.85		1.00	0.31		0.31	0.03		0.62	0.07	
Uniform Delay, d1	27.4	13.0		32.6	12.9		32.5	29.2		26.1	21.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.1	4.0		249.6	0.1		13.0	0.1		4.5	0.1	
Delay (s)	36.5	17.0		282.3	13.0		45.5	29.3		30.6	21.3	
Level of Service	D	B		F	B		D	C		C	C	
Approach Delay (s)		18.7			20.5			31.3			27.1	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	65.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Salt Creek Heights
24: Placer St. & Buenaventura Blvd.

AM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1527	1770	3334		1770	1863	1550	1770	3393	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1527	1770	3334		1770	1863	1550	1770	3393	
Volume (vph)	180	1043	165	125	266	122	144	511	181	313	287	92
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	1134	179	136	289	133	157	555	197	340	312	100
RTOR Reduction (vph)	0	0	41	0	52	0	0	0	89	0	30	0
Lane Group Flow (vph)	196	1134	138	136	370	0	157	555	108	340	382	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	15.3	30.0	30.0	7.0	21.7		13.2	29.0	29.0	18.0	33.8	
Effective Green, g (s)	15.3	30.0	30.0	7.0	21.7		13.2	29.0	29.0	18.0	33.8	
Actuated g/C Ratio	0.15	0.30	0.30	0.07	0.22		0.13	0.29	0.29	0.18	0.34	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	271	1062	458	124	723		234	540	450	319	1147	
v/s Ratio Prot	0.11	c0.32		c0.08	0.13		0.09	c0.30		c0.19	0.12	
v/s Ratio Perm			0.12						0.13			
v/c Ratio	0.72	1.07	0.30	1.10	0.51		0.67	1.03	0.24	1.07	0.33	
Uniform Delay, d1	40.3	35.0	26.9	46.5	34.5		41.3	35.5	27.1	41.0	24.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.2	47.6	0.4	109.2	0.6		7.4	46.0	0.3	68.9	0.2	
Delay (s)	49.5	82.6	27.3	155.7	35.1		48.7	81.5	27.4	109.9	24.9	
Level of Service	D	F	C	F	D		D	F	C	F	C	
Approach Delay (s)		71.8			64.5			64.1			63.3	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM Average Control Delay	67.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	167	24	28	4	3	11	10	730	8	22	575	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	182	26	30	4	3	12	11	793	9	24	625	36
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1512	1507	635	1542	1534	803	666			807		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1512	1507	635	1542	1534	803	666			807		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	77	94	94	97	97	99			97		
cM capacity (veh/h)	89	114	473	69	110	378	915			810		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	236	20	11	793	9	24	625	36
Volume Left	182	4	11	0	0	24	0	0
Volume Right	30	12	0	0	9	0	0	36
cSH	102	157	915	1700	1700	810	1700	1700
Volume to Capacity	2.34	0.12	0.01	0.47	0.01	0.03	0.37	0.02
Queue Length 95th (ft)	531	10	1	0	0	2	0	0
Control Delay (s)	700.8	31.1	9.0	0.0	0.0	9.6	0.0	0.0
Lane LOS	F	D	A			A		
Approach Delay (s)	700.8	31.1	0.1			0.3		
Approach LOS	F	D						

Intersection Summary				
Average Delay	95.6			
Intersection Capacity Utilization	64.0%	ICU Level of Service		C
Analysis Period (min)	15			

Salt Creek Heights
1: Eureka Way(SR 299) & Lower Springs Rd.

PM peak hour conditions
Year 2030 No Project Conditions

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	495	2	42	500	4	31
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	538	2	46	543	4	34
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			545		1184	549
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			545		1184	549
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		98	94
cM capacity (veh/h)			1020		198	531

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	540	46	543	38
Volume Left	0	46	0	4
Volume Right	2	0	0	34
cSH	1700	1020	1700	445
Volume to Capacity	0.32	0.04	0.32	0.09
Queue Length 95th (ft)	0	4	0	7
Control Delay (s)	0.0	8.7	0.0	13.8
Lane LOS		A		B
Approach Delay (s)	0.0	0.7		13.8
Approach LOS				B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

Salt Creek Heights
2: Eureka Way & Buenaventura Blvd.

PM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.91	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00		0.98	
Satd. Flow (prot)	1770	3539	1553	1770	3539	1534	1681	1682	1475		1785	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00		0.98	
Satd. Flow (perm)	1770	3539	1553	1770	3539	1534	1681	1682	1475		1785	
Volume (vph)	34	364	329	320	563	366	263	194	285	154	123	33
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	396	358	348	612	398	286	211	310	167	134	36
RTOR Reduction (vph)	0	0	287	0	0	247	0	0	254	0	5	0
Lane Group Flow (vph)	37	396	71	348	612	151	248	249	56	0	332	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	3.3	16.6	16.6	18.5	31.8	31.8	15.2	15.2	15.2		17.6	
Effective Green, g (s)	3.3	16.6	16.6	18.5	31.8	31.8	15.2	15.2	15.2		17.6	
Actuated g/C Ratio	0.04	0.20	0.20	0.22	0.38	0.38	0.18	0.18	0.18		0.21	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	70	700	307	390	1341	581	305	305	267		374	
v/s Ratio Prot	0.02	0.11		c0.20	0.17		0.15	0.15			c0.19	
v/s Ratio Perm			0.23			0.26			0.21			
v/c Ratio	0.53	0.57	0.23	0.89	0.46	0.26	0.81	0.82	0.21		0.89	
Uniform Delay, d1	39.5	30.4	28.3	31.7	19.6	17.9	33.0	33.0	29.2		32.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	7.0	1.1	0.4	21.7	0.2	0.2	15.1	15.4	0.4		21.6	
Delay (s)	46.6	31.4	28.7	53.5	19.8	18.2	48.1	48.4	29.6		53.8	
Level of Service	D	C	C	D	B	B	D	D	C		D	
Approach Delay (s)		30.9			28.0			41.1			53.8	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	83.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	45	613	1248	108	90	37
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	666	1357	117	98	40
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		913				
pX, platoon unblocked						
vC, conflicting volume	1479				1798	688
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1479				1798	688
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				0	90
cM capacity (veh/h)	449				63	385

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	49	333	333	678	678	117	138
Volume Left	49	0	0	0	0	0	98
Volume Right	0	0	0	0	0	117	40
cSH	449	1700	1700	1700	1700	1700	83
Volume to Capacity	0.11	0.20	0.20	0.40	0.40	0.07	1.65
Queue Length 95th (ft)	9	0	0	0	0	0	284
Control Delay (s)	14.0	0.0	0.0	0.0	0.0	0.0	427.6
Lane LOS	B						F
Approach Delay (s)	1.0			0.0			427.6
Approach LOS							F

Intersection Summary			
Average Delay	25.7		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	43	627	879	28	47	80
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	47	682	955	30	51	87
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	991				1415	503
vC1, stage 1 conf vol					976	
vC2, stage 2 conf vol					439	
vCu, unblocked vol	991				1415	503
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	93				79	83
cM capacity (veh/h)	691				238	510

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	47	341	341	637	349	138
Volume Left	47	0	0	0	0	51
Volume Right	0	0	0	0	30	87
cSH	691	1700	1700	1700	1700	358
Volume to Capacity	0.07	0.20	0.20	0.37	0.21	0.39
Queue Length 95th (ft)	5	0	0	0	0	44
Control Delay (s)	10.6	0.0	0.0	0.0	0.0	21.2
Lane LOS	B					C
Approach Delay (s)	0.7			0.0		21.2
Approach LOS						C

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	737	12	68	1135	10	102
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	801	13	74	1234	11	111
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume			819		1582	417
vC1, stage 1 conf vol					813	
vC2, stage 2 conf vol					770	
vCu, unblocked vol			819		1582	417
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			91		95	81
cM capacity (veh/h)			795		215	577

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	534	280	74	617	617	122
Volume Left	0	0	74	0	0	11
Volume Right	0	13	0	0	0	111
cSH	1700	1700	795	1700	1700	502
Volume to Capacity	0.31	0.16	0.09	0.36	0.36	0.24
Queue Length 95th (ft)	0	0	8	0	0	24
Control Delay (s)	0.0	0.0	10.0	0.0	0.0	14.5
Lane LOS			A			B
Approach Delay (s)	0.0		0.6			14.5
Approach LOS						B

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (prot)	1770	3532		1770	3539	1539		1742		1681	1614	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (perm)	1770	3532		1770	3539	1539		1742		1681	1614	
Volume (vph)	58	680	7	22	1184	23	12	25	21	37	4	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	739	8	24	1287	25	13	27	23	40	4	11
RTOR Reduction (vph)	0	0	0	0	0	11	0	21	0	0	10	0
Lane Group Flow (vph)	63	747	0	24	1287	14	0	42	0	28	17	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						
Actuated Green, G (s)	1.8	31.6		1.5	31.3	31.3		4.5		4.3	4.3	
Effective Green, g (s)	1.8	31.6		1.5	31.3	31.3		4.5		4.3	4.3	
Actuated g/C Ratio	0.03	0.55		0.03	0.54	0.54		0.08		0.07	0.07	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	55	1928		46	1913	832		135		125	120	
v/s Ratio Prot	c0.04	0.21		0.01	c0.36			c0.04		0.02	c0.02	
v/s Ratio Perm						0.02						
v/c Ratio	1.15	0.39		0.52	0.67	0.02		0.31		0.22	0.14	
Uniform Delay, d1	28.0	7.6		27.8	9.6	6.2		25.2		25.2	25.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	166.7	0.1		10.3	0.9	0.0		1.3		0.9	0.5	
Delay (s)	194.7	7.7		38.1	10.5	6.2		26.5		26.1	25.6	
Level of Service	F	A		D	B	A		C		C	C	
Approach Delay (s)		22.2			11.0			26.5			25.9	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	15.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1770	3534		1770	3487			1822	1555		1795	1555
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1770	3534		1770	3487			1822	1555		1795	1555
Volume (vph)	30	710	6	58	1171	106	12	15	38	130	41	72
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	772	7	63	1273	115	13	16	41	141	45	78
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	38	0	0	67
Lane Group Flow (vph)	33	778	0	63	1382	0	0	29	3	0	186	11
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	1.8	31.5		3.5	33.2			4.3	4.3		9.1	9.1
Effective Green, g (s)	1.8	31.5		3.5	33.2			4.3	4.3		9.1	9.1
Actuated g/C Ratio	0.03	0.49		0.05	0.52			0.07	0.07		0.14	0.14
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	49	1729		96	1798			122	104		254	220
v/s Ratio Prot	0.02	0.22		c0.04	c0.40			0.02			c0.10	
v/s Ratio Perm									0.03			0.05
v/c Ratio	0.67	0.45		0.66	0.77			0.24	0.03		0.73	0.05
Uniform Delay, d1	31.0	10.8		29.9	12.5			28.5	28.1		26.5	23.9
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	30.8	0.2		15.0	2.0			1.0	0.1		10.4	0.1
Delay (s)	61.8	11.0		44.9	14.5			29.5	28.2		36.9	24.0
Level of Service	E	B		D	B			C	C		D	C
Approach Delay (s)		13.0			15.9			28.7			33.1	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	64.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	153	1121	976	9	5	234
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	166	1218	1061	10	5	254
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)		771	933			
pX, platoon unblocked						
vC, conflicting volume	1076				2018	545
vC1, stage 1 conf vol					1071	
vC2, stage 2 conf vol					947	
vCu, unblocked vol	1076				2018	545
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	74				96	47
cM capacity (veh/h)	641				139	478

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	166	609	609	707	363	260
Volume Left	166	0	0	0	0	5
Volume Right	0	0	0	0	10	254
cSH	641	1700	1700	1700	1700	455
Volume to Capacity	0.26	0.36	0.36	0.42	0.21	0.57
Queue Length 95th (ft)	26	0	0	0	0	87
Control Delay (s)	12.6	0.0	0.0	0.0	0.0	22.9
Lane LOS	B					C
Approach Delay (s)	1.5			0.0		22.9
Approach LOS						C

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	934	14	1	1091	106	13	46	48	62	0	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	1015	15	1	1186	115	14	50	52	67	0	8
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1263			441							
pX, platoon unblocked												
vC, conflicting volume	1306			1035			1646	2347	525	1851	2297	661
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1306			1035			1646	2347	525	1851	2297	661
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			77	0	89	0	100	98
cM capacity (veh/h)	524			664			63	35	493	0	38	402

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	5	677	354	1	791	511	116	75
Volume Left	5	0	0	1	0	0	14	67
Volume Right	0	0	15	0	0	115	52	8
cSH	524	1700	1700	664	1700	1700	66	0
Volume to Capacity	0.01	0.40	0.21	0.00	0.47	0.30	1.76	Err
Queue Length 95th (ft)	1	0	0	0	0	0	262	Err
Control Delay (s)	11.9	0.0	0.0	10.4	0.0	0.0	501.6	Err
Lane LOS	B			B			F	F
Approach Delay (s)	0.1			0.0			501.6	Err
Approach LOS							F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1556	1770	3426		1770	1863	1557	1770	1824	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1556	1770	3426		1770	1863	1557	1770	1824	
Volume (vph)	89	671	304	284	809	177	422	380	220	88	273	39
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	729	330	309	879	192	459	413	239	96	297	42
RTOR Reduction (vph)	0	0	160	0	19	0	0	0	125	0	6	0
Lane Group Flow (vph)	97	729	170	309	1052	0	459	413	114	96	333	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	12.0	30.5	30.5	16.2	34.7		4.5	26.3	26.3	4.0	26.3	
Effective Green, g (s)	11.5	31.0	31.0	15.7	35.2		4.0	26.3	26.3	4.0	26.3	
Actuated g/C Ratio	0.12	0.33	0.33	0.17	0.38		0.04	0.28	0.28	0.04	0.28	
Clearance Time (s)	3.5	4.5	4.5	3.5	4.5		3.5	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	219	1180	519	299	1297		76	527	440	76	516	
v/s Ratio Prot	0.05	0.21		c0.17	c0.31		c0.26	c0.22		0.05	0.19	
v/s Ratio Perm			0.21						0.15			
v/c Ratio	0.44	0.62	0.33	1.03	0.81		6.04	0.78	0.26	1.26	0.64	
Uniform Delay, d1	37.8	26.0	23.2	38.6	25.9		44.5	30.7	25.8	44.5	29.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	2.4	1.7	61.0	5.6		2295.8	7.5	0.3	189.5	2.8	
Delay (s)	39.2	28.5	24.9	99.6	31.5		2340.3	38.2	26.1	234.0	32.0	
Level of Service	D	C	C	F	C		F	D	C	F	C	
Approach Delay (s)		28.3			46.8			986.7			76.6	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM Average Control Delay	300.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	252	73	46	475	259	264
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	274	79	50	516	282	287
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				713	990	
pX, platoon unblocked						
vC, conflicting volume	1051	435	573			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1051	435	573			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	87	95			
cM capacity (veh/h)	237	616	995			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	353	50	516	568
Volume Left	274	50	0	0
Volume Right	79	0	0	287
cSH	275	995	1700	1700
Volume to Capacity	1.29	0.05	0.30	0.33
Queue Length 95th (ft)	436	4	0	0
Control Delay (s)	191.1	8.8	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	191.1	0.8		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	45.7		
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99			0.97			0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3539	1555	1770	3509			3368			3251	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.99			0.99	
Satd. Flow (perm)	1770	3539	1555	1770	3509			3368			3251	
Volume (vph)	73	848	135	16	1021	54	47	107	40	19	72	77
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	922	147	17	1110	59	51	116	43	21	78	84
RTOR Reduction (vph)	0	0	44	0	3	0	0	27	0	0	74	0
Lane Group Flow (vph)	79	922	103	17	1166	0	0	183	0	0	109	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2									
Actuated Green, G (s)	8.8	53.6	53.6	2.3	47.1			12.1			11.5	
Effective Green, g (s)	8.8	54.1	54.1	2.3	47.6			12.1			11.5	
Actuated g/C Ratio	0.09	0.56	0.56	0.02	0.50			0.13			0.12	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5			4.0			4.0	
Vehicle Extension (s)	2.5	5.0	5.0	2.5	5.0			3.0			3.0	
Lane Grp Cap (vph)	162	1994	876	42	1740			425			389	
v/s Ratio Prot	c0.04	0.26		0.01	c0.33			c0.06			c0.06	
v/s Ratio Perm			0.09									
v/c Ratio	0.49	0.46	0.12	0.40	0.67			0.43			0.28	
Uniform Delay, d1	41.5	12.4	9.8	46.2	18.3			38.8			38.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.7	0.8	0.3	4.6	2.1			0.7			0.4	
Delay (s)	43.1	13.1	10.1	50.8	20.4			39.5			38.9	
Level of Service	D	B	B	D	C			D			D	
Approach Delay (s)		14.8			20.8			39.5			38.9	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00		0.88	0.91	0.91	0.88					0.95	1.00
Frpb, ped/bikes	1.00		0.98	1.00	1.00	0.97					1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85					1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (prot)	1770		2729	1610	3390	2711					3539	1558
Flt Permitted	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (perm)	1770		2729	1610	3390	2711					3539	1558
Volume (vph)	492	0	559	67	725	952	0	0	0	0	815	299
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	535	0	608	73	788	1035	0	0	0	0	886	325
RTOR Reduction (vph)	0	0	505	22	0	701	0	0	0	0	0	209
Lane Group Flow (vph)	535	0	103	51	788	334	0	0	0	0	886	116
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		custom	Split		Perm						Perm
Protected Phases	2			8	8						1	
Permitted Phases			2			8						1
Actuated Green, G (s)	13.6		13.6	25.8	25.8	25.8					28.6	28.6
Effective Green, g (s)	13.6		13.6	25.8	25.8	25.8					28.6	28.6
Actuated g/C Ratio	0.17		0.17	0.32	0.32	0.32					0.36	0.36
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0					5.0	5.0
Lane Grp Cap (vph)	301		464	519	1093	874					1265	557
v/s Ratio Prot	c0.30			0.05	0.23						c0.25	
v/s Ratio Perm			0.22			0.38						0.21
v/c Ratio	1.78		0.22	0.10	0.72	0.38					0.70	0.21
Uniform Delay, d1	33.2		28.6	19.0	23.9	20.9					22.0	17.8
Progression Factor	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Incremental Delay, d2	363.0		1.1	0.1	2.4	0.3					2.2	0.4
Delay (s)	396.2		29.7	19.0	26.3	21.2					24.3	18.2
Level of Service	F		C	B	C	C					C	B
Approach Delay (s)		201.3			23.2			0.0			22.6	
Approach LOS		F			C			A			C	

Intersection Summary			
HCM Average Control Delay	71.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.94		1.00	0.98		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3384			3232		1770	3442		1770	3470	
Flt Permitted		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3384			3232		1770	3442		1770	3470	
Volume (vph)	32	171	59	300	299	403	16	685	121	122	740	96
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	186	64	326	325	438	17	745	132	133	804	104
RTOR Reduction (vph)	0	31	0	0	128	0	0	15	0	0	10	0
Lane Group Flow (vph)	0	254	0	0	961	0	17	862	0	133	898	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		11.7			27.0		1.6	25.5		8.0	31.9	
Effective Green, g (s)		11.7			27.0		1.6	25.5		8.0	31.9	
Actuated g/C Ratio		0.13			0.31		0.02	0.29		0.09	0.36	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		449			989		32	995		161	1255	
v/s Ratio Prot		c0.08			c0.34		0.01	c0.25		c0.08	0.26	
v/s Ratio Perm												
v/c Ratio		0.57			0.97		0.53	0.87		0.83	0.72	
Uniform Delay, d1		35.9			30.2		42.9	29.7		39.4	24.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6			21.8		15.9	10.1		27.9	3.5	
Delay (s)		37.5			52.0		58.8	39.8		67.3	27.7	
Level of Service		D			D		E	D		E	C	
Approach Delay (s)		37.5			52.0			40.1			32.8	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	41.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0						4.0	
Lane Util. Factor			0.88	0.97	0.95						0.91	
Frpb, ped/bikes			1.00	1.00	1.00						1.00	
Flpb, ped/bikes			1.00	1.00	1.00						1.00	
Frt			0.85	1.00	1.00						0.99	
Flt Protected			1.00	0.95	1.00						1.00	
Satd. Flow (prot)			2787	3433	3539						5041	
Flt Permitted			1.00	0.95	1.00						1.00	
Satd. Flow (perm)			2787	3433	3539						5041	
Volume (vph)	0	0	378	498	912	0	0	0	0	0	1266	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	411	541	991	0	0	0	0	0	1375	76
RTOR Reduction (vph)	0	0	55	21	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	356	520	991	0	0	0	0	0	1444	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type			custom	Split								
Protected Phases			7	8	8						6	
Permitted Phases												
Actuated Green, G (s)			14.8	22.0	22.0						30.7	
Effective Green, g (s)			14.8	22.0	22.0						31.2	
Actuated g/C Ratio			0.18	0.28	0.28						0.39	
Clearance Time (s)			4.0	4.0	4.0						4.5	
Vehicle Extension (s)			3.0	3.0	3.0						5.0	
Lane Grp Cap (vph)			516	944	973						1966	
v/s Ratio Prot			c0.15	0.16	c0.28						c0.29	
v/s Ratio Perm												
v/c Ratio			0.69	0.55	1.02						0.73	
Uniform Delay, d1			30.5	24.8	29.0						20.9	
Progression Factor			1.00	1.00	1.00						0.85	
Incremental Delay, d2			7.4	0.7	33.6						1.4	
Delay (s)			37.9	25.5	62.6						19.2	
Level of Service			D	C	E						B	
Approach Delay (s)		37.9			49.5			0.0			19.2	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	35.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0				
Lane Util. Factor					0.86	0.86		0.91				
Frpb, ped/bikes					1.00	0.98		1.00				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					0.98	0.85		1.00				
Flt Protected					1.00	1.00		0.99				
Satd. Flow (prot)					4690	1334		5037				
Flt Permitted					1.00	1.00		0.99				
Satd. Flow (perm)					4690	1334		5037				
Volume (vph)	0	0	0	0	915	751	299	1248	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	995	816	325	1357	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	18	222	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1141	430	0	1682	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type						Perm	Split					
Protected Phases					8		2	2			6	
Permitted Phases						8						
Actuated Green, G (s)					34.1	34.1		40.7				
Effective Green, g (s)					34.1	34.1		40.7				
Actuated g/C Ratio					0.38	0.38		0.45				
Clearance Time (s)					4.0	4.0		4.0				
Vehicle Extension (s)					3.0	3.0		5.0				
Lane Grp Cap (vph)					1777	505		2278				
v/s Ratio Prot					0.25			c0.33				
v/s Ratio Perm						0.49						
v/c Ratio					0.64	0.85		0.74				
Uniform Delay, d1					22.9	25.6		20.3				
Progression Factor					1.00	1.00		1.00				
Incremental Delay, d2					1.8	16.3		1.6				
Delay (s)					24.7	42.0		21.8				
Level of Service					C	D		C				
Approach Delay (s)		0.0			30.9			21.8			0.0	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
17: Shasta St. & East St.

PM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0			4.0	
Lane Util. Factor					0.86		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.99	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					6255		1770	3539			3482	
Flt Permitted					0.99		0.95	1.00			1.00	
Satd. Flow (perm)					6255		1770	3539			3482	
Volume (vph)	0	0	0	300	1341	171	97	79	0	0	111	12
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	326	1458	186	105	86	0	0	121	13
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	0	0	0	1956	0	105	86	0	0	123	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split			Prot					
Protected Phases				6	6		3	8			4	
Permitted Phases												
Actuated Green, G (s)					54.4		4.3	17.6			9.3	
Effective Green, g (s)					54.4		4.3	17.6			9.3	
Actuated g/C Ratio					0.68		0.05	0.22			0.12	
Clearance Time (s)					4.0		4.0	4.0			4.0	
Vehicle Extension (s)					5.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					4253		95	779			405	
v/s Ratio Prot					c0.31		c0.06	0.02			c0.04	
v/s Ratio Perm												
v/c Ratio					0.46		1.11	0.11			0.30	
Uniform Delay, d1					6.0		37.8	24.9			32.4	
Progression Factor					1.00		1.00	1.53			1.00	
Incremental Delay, d2					0.4		116.0	0.1			0.4	
Delay (s)					6.3		153.7	38.3			32.8	
Level of Service					A		F	D			C	
Approach Delay (s)		0.0			6.3			101.7			32.8	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	15.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
18: Tehama St. & Market St.(SR 273)

PM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)							4.0		4.0	4.0	4.0	4.0
Lane Util. Factor							1.00		1.00	0.95	0.91	0.95
Frpb, ped/bikes							1.00		0.97	1.00	1.00	0.98
Flpb, ped/bikes							1.00		1.00	1.00	1.00	1.00
Frt							1.00		0.85	1.00	1.00	0.85
Flt Protected							0.95		1.00	0.95	0.96	1.00
Satd. Flow (prot)							1752		1529	1681	1616	1475
Flt Permitted							0.95		1.00	0.95	0.96	1.00
Satd. Flow (perm)							1752		1529	1681	1616	1475
Volume (vph)	0	0	0	0	0	0	65	0	31	1485	46	684
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	71	0	34	1614	50	743
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	30	178	165	150
Lane Group Flow (vph)	0	0	0	0	0	0	71	0	4	661	667	586
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Turn Type							Prot		custom	Split		Perm
Protected Phases							4			2	2	
Permitted Phases									4			2
Actuated Green, G (s)							9.0		9.0	63.0	63.0	63.0
Effective Green, g (s)							9.0		9.0	63.0	63.0	63.0
Actuated g/C Ratio							0.11		0.11	0.79	0.79	0.79
Clearance Time (s)							4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)							3.0		3.0	5.0	5.0	5.0
Lane Grp Cap (vph)							197		172	1324	1273	1162
v/s Ratio Prot							c0.04			0.50	c0.51	
v/s Ratio Perm									0.02			0.50
v/c Ratio							0.36		0.02	0.50	0.52	0.50
Uniform Delay, d1							32.8		31.6	3.0	3.1	3.0
Progression Factor							1.00		1.00	2.07	1.94	1.79
Incremental Delay, d2							1.1		0.1	0.5	0.6	0.6
Delay (s)							34.0		31.6	6.7	6.5	5.9
Level of Service							C		C	A	A	A
Approach Delay (s)		0.0			0.0			33.2			6.4	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM Average Control Delay	7.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
19: Tehama St. & Pine St.

PM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0			
Lane Util. Factor		0.91						0.86	0.86			
Frpb, ped/bikes		1.00						1.00	0.98			
Flpb, ped/bikes		1.00						1.00	1.00			
Frt		1.00						1.00	0.85			
Flt Protected		1.00						1.00	1.00			
Satd. Flow (prot)		5079						4806	1335			
Flt Permitted		1.00						1.00	1.00			
Satd. Flow (perm)		5079						4806	1335			
Volume (vph)	40	1491	0	0	0	0	0	1449	409	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	1621	0	0	0	0	0	1575	445	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	3	0	0	0
Lane Group Flow (vph)	0	1664	0	0	0	0	0	1575	442	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm			
Protected Phases	4	4						2			6	
Permitted Phases									2			
Actuated Green, G (s)		34.0						38.0	38.0			
Effective Green, g (s)		34.0						38.0	38.0			
Actuated g/C Ratio		0.42						0.48	0.48			
Clearance Time (s)		4.0						4.0	4.0			
Vehicle Extension (s)		3.0						5.0	5.0			
Lane Grp Cap (vph)		2159						2283	634			
v/s Ratio Prot		c0.33						0.33				
v/s Ratio Perm									0.33			
v/c Ratio		0.77						0.69	0.70			
Uniform Delay, d1		19.7						16.4	16.5			
Progression Factor		0.62						1.00	1.00			
Incremental Delay, d2		2.3						1.7	6.3			
Delay (s)		14.5						18.1	22.8			
Level of Service		B						B	C			
Approach Delay (s)		14.5			0.0			19.2			0.0	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
20: Tehama St. & East St.

PM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91						0.91	0.91	1.00	0.95	
Frpb, ped/bikes		1.00						0.99	0.98	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	1.00	1.00	
Frt		0.99						0.91	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		5007						3049	1416	1770	3539	
Flt Permitted		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (perm)		5007						3049	1416	1770	3539	
Volume (vph)	17	1752	174	0	0	0	0	162	502	85	266	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	1904	189	0	0	0	0	176	546	92	289	0
RTOR Reduction (vph)	0	13	0	0	0	0	0	15	15	0	0	0
Lane Group Flow (vph)	0	2098	0	0	0	0	0	434	258	92	289	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm	Prot		
Protected Phases	2	2						8		7	4	
Permitted Phases									8			
Actuated Green, G (s)		44.9						18.1	18.1	5.0	27.1	
Effective Green, g (s)		44.9						18.1	18.1	5.0	27.1	
Actuated g/C Ratio		0.56						0.23	0.23	0.06	0.34	
Clearance Time (s)		4.0						4.0	4.0	4.0	4.0	
Vehicle Extension (s)		5.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		2810						690	320	111	1199	
v/s Ratio Prot		c0.42						0.15		c0.05	0.08	
v/s Ratio Perm									0.19			
v/c Ratio		0.75						0.63	0.81	0.83	0.24	
Uniform Delay, d1		13.3						27.9	29.3	37.1	19.0	
Progression Factor		1.81						1.00	1.00	1.01	0.92	
Incremental Delay, d2		1.2						1.8	13.8	36.1	0.1	
Delay (s)		25.2						29.7	43.1	73.5	17.6	
Level of Service		C						C	D	E	B	
Approach Delay (s)		25.2			0.0			34.8			31.1	
Approach LOS		C			A			C			C	

Intersection Summary			
HCM Average Control Delay	28.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
21: Placer St. & Court St.

PM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3511		1770	3487		1770	3427		1770	3260	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3511		1770	3487		1770	3427		1770	3260	
Volume (vph)	156	635	31	43	686	65	129	310	72	18	379	335
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	690	34	47	746	71	140	337	78	20	412	364
RTOR Reduction (vph)	0	4	0	0	9	0	0	23	0	0	192	0
Lane Group Flow (vph)	170	720	0	47	808	0	140	392	0	20	584	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	12.4	30.1		3.4	21.1		8.6	29.6		1.5	22.5	
Effective Green, g (s)	12.4	30.1		3.4	21.1		8.6	29.6		1.5	22.5	
Actuated g/C Ratio	0.15	0.37		0.04	0.26		0.11	0.37		0.02	0.28	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	272	1311		75	913		189	1259		33	910	
v/s Ratio Prot	0.10	c0.21		0.03	c0.23		c0.08	0.12		0.01	c0.24	
v/s Ratio Perm												
v/c Ratio	0.62	0.55		0.63	0.89		0.74	0.31		0.61	0.64	
Uniform Delay, d1	31.9	19.9		38.0	28.6		34.9	18.2		39.3	25.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.4	0.5		15.2	10.2		14.4	0.6		27.6	3.5	
Delay (s)	36.4	20.4		53.2	38.8		49.4	18.9		66.8	29.0	
Level of Service	D	C		D	D		D	B		E	C	
Approach Delay (s)		23.4			39.6			26.6			29.9	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	80.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
22: Placer St. & Airpark Dr.

PM peak hour conditions
Year 2030 No Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SB	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.95	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.97		1.00	1.00			0.94			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1666	3379		1752	3502			1675			1676	
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (perm)	1666	3379		1752	3502			1675			1676	
Volume (vph)	4	549	132	125	1081	5	348	1	255	5	1	5
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	597	143	136	1175	5	378	1	277	5	1	5
RTOR Reduction (vph)	0	16	0	0	0	0	0	20	0	0	5	0
Lane Group Flow (vph)	4	724	0	136	1180	0	0	636	0	0	6	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	0.7	31.2		11.5	42.0			44.8			3.9	
Effective Green, g (s)	0.7	31.2		11.5	42.0			44.8			3.9	
Actuated g/C Ratio	0.01	0.29		0.11	0.39			0.42			0.04	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	11	982		188	1369			699			61	
v/s Ratio Prot	0.00	0.22		c0.08	c0.34			c0.39			c0.01	
v/s Ratio Perm												
v/c Ratio	0.36	0.74		0.72	0.86			0.91			0.10	
Uniform Delay, d1	53.1	34.4		46.4	30.0			29.4			50.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	19.3	2.9		12.9	5.8			15.7			0.7	
Delay (s)	72.4	37.3		59.3	35.9			45.1			50.8	
Level of Service	E	D		E	D			D			D	
Approach Delay (s)		37.5			38.3			45.1			50.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	39.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	107.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.89		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1751	3498		1752	3477		1746	1621		1745	1549	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1751	3498		1752	3477		1746	1621		1745	1549	
Volume (vph)	32	568	6	21	1275	59	28	8	23	37	3	110
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	617	7	23	1386	64	30	9	25	40	3	120
RTOR Reduction (vph)	0	1	0	0	3	0	0	23	0	0	110	0
Lane Group Flow (vph)	35	623	0	23	1447	0	30	11	0	40	13	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	0.9	28.0		1.2	28.3		0.9	4.1		0.9	4.1	
Effective Green, g (s)	0.9	28.0		1.2	28.3		0.9	4.1		0.9	4.1	
Actuated g/C Ratio	0.02	0.56		0.02	0.56		0.02	0.08		0.02	0.08	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	31	1951		42	1960		31	132		31	127	
v/s Ratio Prot	c0.02	0.18		0.01	c0.42		0.02	c0.02		0.02	c0.08	
v/s Ratio Perm												
v/c Ratio	1.13	0.32		0.55	0.74		0.97	0.08		1.29	0.10	
Uniform Delay, d1	24.7	6.0		24.2	8.2		24.6	21.3		24.7	21.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	203.2	0.1		13.8	1.5		146.8	0.3		260.2	0.3	
Delay (s)	227.9	6.1		38.0	9.7		171.4	21.6		284.9	21.7	
Level of Service	F	A		D	A		F	C		F	C	
Approach Delay (s)		17.8			10.1			91.8			86.3	
Approach LOS		B			B			F			F	

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	50.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1533	1770	3384		1770	1863	1553	1770	3386	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1533	1770	3384		1770	1863	1553	1770	3386	
Volume (vph)	95	335	100	162	814	261	237	283	76	208	421	145
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	364	109	176	885	284	258	308	83	226	458	158
RTOR Reduction (vph)	0	0	80	0	38	0	0	0	63	0	43	0
Lane Group Flow (vph)	103	364	29	176	1131	0	258	308	20	226	573	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	5.0	20.6	20.6	12.2	27.8		12.9	18.5	18.5	11.0	16.6	
Effective Green, g (s)	5.0	20.6	20.6	12.2	27.8		12.9	18.5	18.5	11.0	16.6	
Actuated g/C Ratio	0.06	0.26	0.26	0.16	0.36		0.16	0.24	0.24	0.14	0.21	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	113	931	403	276	1201		292	440	367	249	718	
v/s Ratio Prot	c0.06	0.10		0.10	c0.35		c0.15	0.17		0.13	c0.18	
v/s Ratio Perm			0.07						0.05			
v/c Ratio	0.91	0.39	0.07	0.64	0.94		0.88	0.70	0.05	0.91	0.80	
Uniform Delay, d1	36.4	23.7	21.7	31.0	24.5		32.0	27.4	23.1	33.1	29.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	57.5	0.3	0.1	4.8	14.2		25.4	5.0	0.1	33.2	6.2	
Delay (s)	93.9	24.0	21.7	35.8	38.7		57.4	32.3	23.2	66.3	35.4	
Level of Service	F	C	C	D	D		E	C	C	E	D	
Approach Delay (s)		36.1			38.3			41.1			43.7	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	39.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	75	5	25	3	8	16	45	543	5	10	738	129
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	5	27	3	9	17	49	590	5	11	802	140
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1544	1527	812	1552	1662	600	947			601		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1544	1527	812	1552	1662	600	947			601		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	95	93	96	90	96	93			99		
cM capacity (veh/h)	77	107	374	76	88	495	717			968		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	114	29	49	590	5	11	802	140
Volume Left	82	3	49	0	0	11	0	0
Volume Right	27	17	0	0	5	0	0	140
cSH	97	166	717	1700	1700	968	1700	1700
Volume to Capacity	1.18	0.18	0.07	0.35	0.00	0.01	0.47	0.08
Queue Length 95th (ft)	193	16	5	0	0	1	0	0
Control Delay (s)	230.0	31.3	10.4	0.0	0.0	8.8	0.0	0.0
Lane LOS	F	D	B			A		
Approach Delay (s)	230.0	31.3	0.8			0.1		
Approach LOS	F	D						

Intersection Summary				
Average Delay	15.9			
Intersection Capacity Utilization	58.3%	ICU Level of Service	B	
Analysis Period (min)	15			

Salt Creek Heights
1: Eureka Way(SR 299) & Lower Springs Rd.

AM peak hour conditions
Year 2030 Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	510	5	21	431	35	3	0	66	102	0	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	554	5	23	468	38	3	0	72	111	0	11
Pedestrians		5			5			5				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	507			565			1099	1121	567	1152	1085	473
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	507			565			1099	1121	567	1152	1085	473
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			98			98	100	86	24	100	98
cM capacity (veh/h)	1053			1003			181	199	519	146	209	586

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	3	560	23	468	38	75	111	11
Volume Left	3	0	23	0	0	3	111	0
Volume Right	0	5	0	0	38	72	0	11
cSH	1053	1700	1003	1700	1700	480	146	586
Volume to Capacity	0.00	0.33	0.02	0.28	0.02	0.16	0.76	0.02
Queue Length 95th (ft)	0	0	2	0	0	14	116	1
Control Delay (s)	8.4	0.0	8.7	0.0	0.0	13.9	82.2	11.3
Lane LOS	A		A			B	F	B
Approach Delay (s)	0.0		0.4			13.9	75.9	
Approach LOS						B	F	

Intersection Summary				
Average Delay	8.2			
Intersection Capacity Utilization	46.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Salt Creek Heights
2: Eureka Way & Buenaventura Blvd.

AM peak hour conditions
Year 2030 Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.91	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	0.99	0.98		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00		0.97	
Satd. Flow (prot)	1770	3539	1551	1770	3539	1530	1681	1583	1472		1790	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00		0.97	
Satd. Flow (perm)	1770	3539	1551	1770	3539	1530	1681	1583	1472		1790	
Volume (vph)	37	549	300	248	209	132	314	120	595	313	214	47
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	597	326	270	227	143	341	130	647	340	233	51
RTOR Reduction (vph)	0	0	268	0	0	99	0	17	339	0	3	0
Lane Group Flow (vph)	40	597	58	270	227	44	271	278	213	0	621	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	3.6	18.0	18.0	16.6	31.0	31.0	18.0	18.0	18.0		33.0	
Effective Green, g (s)	3.6	18.0	18.0	16.6	31.0	31.0	18.0	18.0	18.0		33.0	
Actuated g/C Ratio	0.04	0.18	0.18	0.16	0.31	0.31	0.18	0.18	0.18		0.32	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	63	627	275	289	1080	467	298	280	261		581	
v/s Ratio Prot	0.02	0.17		c0.15	0.06		0.16	0.19			c0.35	
v/s Ratio Perm			0.21			0.09			0.37			
v/c Ratio	0.63	0.95	0.21	0.93	0.21	0.09	0.91	0.99	0.82		1.07	
Uniform Delay, d1	48.4	41.4	35.7	42.0	26.2	25.2	41.0	41.7	40.2		34.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	19.1	24.6	0.4	35.6	0.1	0.1	29.5	51.3	17.6		56.9	
Delay (s)	67.4	65.9	36.1	77.6	26.3	25.3	70.5	93.1	57.8		91.2	
Level of Service	E	E	D	E	C	C	E	F	E		F	
Approach Delay (s)		55.9			47.7			70.2			91.2	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM Average Control Delay	65.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	101.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	32	1567	655	45	132	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	1703	712	49	143	63
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)		913				
pX, platoon unblocked						
vC, conflicting volume	766				1643	366
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	766				1643	366
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				0	90
cM capacity (veh/h)	840				86	626

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	35	852	852	356	356	49	207
Volume Left	35	0	0	0	0	0	143
Volume Right	0	0	0	0	0	49	63
cSH	840	1700	1700	1700	1700	1700	117
Volume to Capacity	0.04	0.50	0.50	0.21	0.21	0.03	1.77
Queue Length 95th (ft)	3	0	0	0	0	0	401
Control Delay (s)	9.5	0.0	0.0	0.0	0.0	0.0	441.4
Lane LOS	A						F
Approach Delay (s)	0.2			0.0			441.4
Approach LOS							F

Intersection Summary			
Average Delay	33.8		
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	310	843	437	48	59	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	337	916	475	52	64	107
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	532				1643	274
vC1, stage 1 conf vol					506	
vC2, stage 2 conf vol					1137	
vCu, unblocked vol	532				1643	274
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	67				55	85
cM capacity (veh/h)	1027				143	718

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	337	458	458	317	211	171
Volume Left	337	0	0	0	0	64
Volume Right	0	0	0	0	52	107
cSH	1027	1700	1700	1700	1700	286
Volume to Capacity	0.33	0.27	0.27	0.19	0.12	0.60
Queue Length 95th (ft)	36	0	0	0	0	89
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	34.6
Lane LOS	B					D
Approach Delay (s)	2.7			0.0		34.6
Approach LOS						D

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	1296	35	110	842	25	81
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1409	38	120	915	27	88
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume			1452		2134	733
vC1, stage 1 conf vol					1433	
vC2, stage 2 conf vol					702	
vCu, unblocked vol			1452		2134	733
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			74		77	75
cM capacity (veh/h)			455		120	358

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	939	508	120	458	458	115
Volume Left	0	0	120	0	0	27
Volume Right	0	38	0	0	0	88
cSH	1700	1700	455	1700	1700	244
Volume to Capacity	0.55	0.30	0.26	0.27	0.27	0.47
Queue Length 95th (ft)	0	0	26	0	0	59
Control Delay (s)	0.0	0.0	15.7	0.0	0.0	32.3
Lane LOS			C			D
Approach Delay (s)	0.0		1.8			32.3
Approach LOS						D

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.94		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (prot)	1770	3523		1770	3539	1535		1728		1681	1619	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (perm)	1770	3523		1770	3539	1535		1728		1681	1619	
Volume (vph)	58	1391	36	21	761	315	19	44	46	254	45	78
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	63	1512	39	23	827	342	21	48	50	276	49	85
RTOR Reduction (vph)	0	1	0	0	0	181	0	31	0	0	28	0
Lane Group Flow (vph)	63	1550	0	23	827	161	0	88	0	202	180	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						
Actuated Green, G (s)	4.3	39.3		1.4	36.4	36.4		7.9		12.8	12.8	
Effective Green, g (s)	4.3	39.3		1.4	36.4	36.4		7.9		12.8	12.8	
Actuated g/C Ratio	0.06	0.51		0.02	0.47	0.47		0.10		0.17	0.17	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	98	1789		32	1664	722		176		278	268	
v/s Ratio Prot	c0.04	c0.44		0.01	0.23			c0.07		0.12	c0.13	
v/s Ratio Perm						0.22						
v/c Ratio	0.64	0.87		0.72	0.50	0.22		0.50		0.73	0.67	
Uniform Delay, d1	35.8	16.7		37.8	14.2	12.1		32.9		30.6	30.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	13.5	4.7		55.4	0.2	0.2		2.2		9.1	6.4	
Delay (s)	49.3	21.4		93.2	14.4	12.3		35.1		39.7	36.8	
Level of Service	D	C		F	B	B		D		D	D	
Approach Delay (s)		22.5			15.3			35.1			38.2	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM Average Control Delay	22.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	77.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.95			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		0.96	1.00
Satd. Flow (prot)	1770	3534		1770	3327			1855	1546		1796	1546
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00		0.96	1.00
Satd. Flow (perm)	1770	3534		1770	3327			1855	1546		1796	1546
Volume (vph)	256	1502	13	73	954	456	13	134	53	179	62	63
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	278	1633	14	79	1037	496	14	146	58	195	67	68
RTOR Reduction (vph)	0	0	0	0	44	0	0	0	45	0	0	43
Lane Group Flow (vph)	278	1647	0	79	1489	0	0	160	13	0	262	25
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	20.0	69.2		7.8	57.0			15.2	15.2		19.0	19.0
Effective Green, g (s)	20.0	69.2		7.8	57.0			15.2	15.2		19.0	19.0
Actuated g/C Ratio	0.16	0.54		0.06	0.45			0.12	0.12		0.15	0.15
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	278	1923		109	1491			222	185		268	231
v/s Ratio Prot	c0.16	0.47		0.04	c0.46			c0.09			c0.15	
v/s Ratio Perm									0.04			0.04
v/c Ratio	1.00	0.86		0.72	1.00			0.72	0.07		0.98	0.11
Uniform Delay, d1	53.6	24.8		58.6	35.1			54.0	49.7		53.9	46.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	54.0	4.0		21.1	22.9			10.9	0.2		48.2	0.2
Delay (s)	107.6	28.7		79.7	57.9			64.9	49.9		102.1	47.0
Level of Service	F	C		E	E			E	D		F	D
Approach Delay (s)		40.1			59.0			60.9			90.8	
Approach LOS		D			E			E			F	

Intersection Summary				
HCM Average Control Delay	52.8	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	127.2	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	90.5%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	125	1417	891	18	8	284
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	136	1540	968	20	9	309
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)		771	933			
pX, platoon unblocked						
vC, conflicting volume	993				2030	504
vC1, stage 1 conf vol					983	
vC2, stage 2 conf vol					1047	
vCu, unblocked vol	993				2030	504
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	80				94	39
cM capacity (veh/h)	689				143	509

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	136	770	770	646	342	317
Volume Left	136	0	0	0	0	9
Volume Right	0	0	0	0	20	309
cSH	689	1700	1700	1700	1700	475
Volume to Capacity	0.20	0.45	0.45	0.38	0.20	0.67
Queue Length 95th (ft)	18	0	0	0	0	121
Control Delay (s)	11.5	0.0	0.0	0.0	0.0	26.5
Lane LOS	B					D
Approach Delay (s)	0.9			0.0		26.5
Approach LOS						D

Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	64.4%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	3	1386	27	14	1270	197	36	2	15	30	17	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	1507	29	15	1380	214	39	2	16	33	18	2
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1263			441							
pX, platoon unblocked												
vC, conflicting volume	1600			1541			2270	3163	778	2305	3070	807
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1600			1541			2270	3163	778	2305	3070	807
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			96			0	78	95	0	0	99
cM capacity (veh/h)	404			425			0	10	336	16	11	322

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	3	1004	532	15	920	674	58	53
Volume Left	3	0	0	15	0	0	39	33
Volume Right	0	0	29	0	0	214	16	2
cSH	404	1700	1700	425	1700	1700	0	14
Volume to Capacity	0.01	0.59	0.31	0.04	0.54	0.40	Err	3.73
Queue Length 95th (ft)	1	0	0	3	0	0	Err	Err
Control Delay (s)	14.0	0.0	0.0	13.8	0.0	0.0	Err	Err
Lane LOS	B			B			F	F
Approach Delay (s)	0.0			0.1			Err	Err
Approach LOS							F	F

Intersection Summary				
Average Delay	Err			
Intersection Capacity Utilization	53.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1556	1770	3485		1770	1863	1557	1770	1831	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1556	1770	3485		1770	1863	1557	1770	1831	
Volume (vph)	105	1073	251	162	997	94	429	384	153	181	388	45
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	1166	273	176	1084	102	466	417	166	197	422	49
RTOR Reduction (vph)	0	0	83	0	7	0	0	0	93	0	6	0
Lane Group Flow (vph)	114	1166	190	176	1179	0	466	417	73	197	465	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	13.4	30.5	30.5	14.8	31.9		4.5	27.7	27.7	4.0	27.7	
Effective Green, g (s)	12.9	31.0	31.0	14.3	32.4		4.0	27.7	27.7	4.0	27.7	
Actuated g/C Ratio	0.14	0.33	0.33	0.15	0.35		0.04	0.30	0.30	0.04	0.30	
Clearance Time (s)	3.5	4.5	4.5	3.5	4.5		3.5	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	246	1180	519	272	1214		76	555	464	76	545	
v/s Ratio Prot	0.06	0.33		c0.10	c0.34		c0.26	0.22		0.11	c0.26	
v/s Ratio Perm			0.18						0.11			
v/c Ratio	0.46	0.99	0.37	0.65	0.97		6.13	0.75	0.16	2.59	0.85	
Uniform Delay, d1	36.9	30.8	23.5	37.0	29.8		44.5	29.5	24.0	44.5	30.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	23.5	2.0	5.2	19.8		2337.2	5.7	0.2	753.1	12.4	
Delay (s)	38.2	54.3	25.5	42.2	49.6		2381.7	35.2	24.2	797.6	43.1	
Level of Service	D	D	C	D	D		F	D	C	F	D	
Approach Delay (s)		48.1			48.6			1075.8			265.6	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM Average Control Delay	312.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	247	185	47	268	323	466
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	268	201	51	291	351	507
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				713	990	
pX, platoon unblocked						
vC, conflicting volume	1008	614	863			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1008	614	863			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	59	93			
cM capacity (veh/h)	247	488	776			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	470	51	291	858
Volume Left	268	51	0	0
Volume Right	201	0	0	507
cSH	313	776	1700	1700
Volume to Capacity	1.50	0.07	0.17	0.50
Queue Length 95th (ft)	656	5	0	0
Control Delay (s)	271.6	10.0	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	271.6	1.5		0.0
Approach LOS	F			

Intersection Summary			
Average Delay	76.7		
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			0.99			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.97			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1770	3539	1555	1770	3529			3302			3435	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.97			1.00	
Satd. Flow (perm)	1770	3539	1555	1770	3529			3302			3435	
Volume (vph)	21	1216	164	17	1096	19	52	19	21	7	218	46
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	1322	178	18	1191	21	57	21	23	8	237	50
RTOR Reduction (vph)	0	0	37	0	1	0	0	21	0	0	21	0
Lane Group Flow (vph)	23	1322	141	18	1211	0	0	80	0	0	274	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2									
Actuated Green, G (s)	2.4	53.4	53.4	2.3	53.3			9.1			14.7	
Effective Green, g (s)	2.4	53.9	53.9	2.3	53.8			9.1			14.7	
Actuated g/C Ratio	0.02	0.56	0.56	0.02	0.56			0.09			0.15	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5			4.0			4.0	
Vehicle Extension (s)	2.5	5.0	5.0	2.5	5.0			3.0			3.0	
Lane Grp Cap (vph)	44	1987	873	42	1978			313			526	
v/s Ratio Prot	c0.01	c0.37		0.01	0.34			c0.03			c0.09	
v/s Ratio Perm			0.11									
v/c Ratio	0.52	0.67	0.16	0.43	0.61			0.26			0.52	
Uniform Delay, d1	46.2	14.7	10.2	46.2	14.1			40.3			37.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	8.3	1.8	0.4	5.0	1.4			0.4			0.9	
Delay (s)	54.5	16.5	10.6	51.2	15.5			40.7			38.3	
Level of Service	D	B	B	D	B			D			D	
Approach Delay (s)		16.4			16.1			40.7			38.3	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Salt Creek Heights
13: Eureka Way & Market St.

AM peak hour conditions
Year 2030 Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00		0.88	0.91	0.91	0.88					0.95	1.00
Frpb, ped/bikes	1.00		0.98	1.00	1.00	0.97					1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85					1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (prot)	1770		2728	1610	3390	2711					3539	1558
Flt Permitted	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (perm)	1770		2728	1610	3390	2711					3539	1558
Volume (vph)	469	0	841	29	842	464	0	0	0	0	860	287
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	510	0	914	32	915	504	0	0	0	0	935	312
RTOR Reduction (vph)	0	0	676	18	0	341	0	0	0	0	0	199
Lane Group Flow (vph)	510	0	238	14	915	163	0	0	0	0	935	113
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		custom	Split		Perm						Perm
Protected Phases	2			8	8						1	
Permitted Phases			2			8						1
Actuated Green, G (s)	13.2		13.2	25.9	25.9	25.9					28.9	28.9
Effective Green, g (s)	13.2		13.2	25.9	25.9	25.9					28.9	28.9
Actuated g/C Ratio	0.16		0.16	0.32	0.32	0.32					0.36	0.36
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0					5.0	5.0
Lane Grp Cap (vph)	292		450	521	1098	878					1278	563
v/s Ratio Prot	0.29			0.02	c0.27						c0.26	
v/s Ratio Perm			0.33			0.19						0.20
v/c Ratio	1.75		0.53	0.03	0.83	0.19					0.73	0.20
Uniform Delay, d1	33.4		30.6	18.5	25.1	19.5					22.2	17.6
Progression Factor	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Incremental Delay, d2	349.8		4.4	0.0	5.6	0.1					2.7	0.4
Delay (s)	383.2		34.9	18.5	30.6	19.6					24.8	18.0
Level of Service	F		C	B	C	B					C	B
Approach Delay (s)		159.7			26.5			0.0			23.1	
Approach LOS		F			C			A			C	

Intersection Summary			
HCM Average Control Delay	71.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
14: Court St. & Shasta St.

AM peak hour conditions
Year 2030 Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.97		1.00	0.98		1.00	0.99	
Flt Protected		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3369			3336		1765	3445		1770	3492	
Flt Permitted		1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3369			3336		1765	3445		1770	3492	
Volume (vph)	15	150	60	615	372	221	13	457	78	47	655	56
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	163	65	668	404	240	14	497	85	51	712	61
RTOR Reduction (vph)	0	44	0	0	20	0	0	15	0	0	7	0
Lane Group Flow (vph)	0	200	0	0	1292	0	14	567	0	51	766	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		10.4			34.2		0.7	21.1		2.8	23.2	
Effective Green, g (s)		10.4			34.2		0.7	21.1		2.8	23.2	
Actuated g/C Ratio		0.12			0.40		0.01	0.25		0.03	0.27	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		415			1350		15	860		59	959	
v/s Ratio Prot		c0.07			c0.39		0.01	0.17		c0.03	c0.22	
v/s Ratio Perm												
v/c Ratio		0.48			0.96		0.93	0.66		0.86	0.80	
Uniform Delay, d1		34.5			24.4		41.9	28.5		40.7	28.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.9			15.2		197.1	3.9		70.2	6.9	
Delay (s)		35.4			39.7		239.0	32.4		110.8	35.4	
Level of Service		D			D		F	C		F	D	
Approach Delay (s)		35.4			39.7			37.3			40.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	39.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	84.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0						4.0	
Lane Util. Factor			0.88	0.97	0.95						0.91	
Frpb, ped/bikes			1.00	1.00	1.00						1.00	
Flpb, ped/bikes			1.00	1.00	1.00						1.00	
Frt			0.85	1.00	1.00						0.99	
Flt Protected			1.00	0.95	1.00						1.00	
Satd. Flow (prot)			2787	3433	3539						5036	
Flt Permitted			1.00	0.95	1.00						1.00	
Satd. Flow (perm)			2787	3433	3539						5036	
Volume (vph)	0	0	178	430	1021	0	0	0	0	0	1475	90
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	193	467	1110	0	0	0	0	0	1603	98
RTOR Reduction (vph)	0	0	70	60	0	0	0	0	0	0	9	0
Lane Group Flow (vph)	0	0	123	407	1110	0	0	0	0	0	1692	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type			custom	Split								
Protected Phases			7	8	8						6	
Permitted Phases												
Actuated Green, G (s)			11.9	22.0	22.0						33.6	
Effective Green, g (s)			11.9	22.0	22.0						34.1	
Actuated g/C Ratio			0.15	0.28	0.28						0.43	
Clearance Time (s)			4.0	4.0	4.0						4.5	
Vehicle Extension (s)			3.0	3.0	3.0						5.0	
Lane Grp Cap (vph)			415	944	973						2147	
v/s Ratio Prot			c0.07	0.14	c0.31						c0.34	
v/s Ratio Perm												
v/c Ratio			0.30	0.43	1.14						0.79	
Uniform Delay, d1			30.3	23.9	29.0						19.8	
Progression Factor			1.00	1.00	1.00						0.85	
Incremental Delay, d2			1.8	0.3	75.9						1.5	
Delay (s)			32.1	24.2	104.9						18.3	
Level of Service			C	C	F						B	
Approach Delay (s)		32.1			81.0			0.0			18.3	
Approach LOS		C			F			A			B	

Intersection Summary			
HCM Average Control Delay	47.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0				
Lane Util. Factor					0.86	0.86		0.91				
Frpb, ped/bikes					1.00	0.98		1.00				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					1.00	0.85		1.00				
Flt Protected					1.00	1.00		0.99				
Satd. Flow (prot)					4806	1334		5036				
Flt Permitted					1.00	1.00		0.99				
Satd. Flow (perm)					4806	1334		5036				
Volume (vph)	0	0	0	0	1300	575	182	755	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	1413	625	198	821	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	203	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1413	422	0	1019	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type						Perm	Split					
Protected Phases					8		2	2			6	
Permitted Phases						8						
Actuated Green, G (s)					45.7	45.7		29.1				
Effective Green, g (s)					45.7	45.7		29.1				
Actuated g/C Ratio					0.51	0.51		0.32				
Clearance Time (s)					4.0	4.0		4.0				
Vehicle Extension (s)					3.0	3.0		5.0				
Lane Grp Cap (vph)					2440	677		1628				
v/s Ratio Prot					0.29			c0.20				
v/s Ratio Perm						0.47						
v/c Ratio					0.58	0.62		0.63				
Uniform Delay, d1					15.4	16.0		25.8				
Progression Factor					1.00	1.00		1.00				
Incremental Delay, d2					1.0	4.3		1.1				
Delay (s)					16.5	20.3		26.9				
Level of Service					B	C		C				
Approach Delay (s)		0.0			17.6			26.9			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0			4.0	
Lane Util. Factor					0.86		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			0.99	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					1.00		1.00	1.00			0.94	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					6351		1770	3539			3309	
Flt Permitted					0.99		0.95	1.00			1.00	
Satd. Flow (perm)					6351		1770	3539			3309	
Volume (vph)	0	0	0	278	1786	29	68	55	0	0	54	35
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	302	1941	32	74	60	0	0	59	38
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	14	0
Lane Group Flow (vph)	0	0	0	0	2273	0	74	60	0	0	83	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split			Prot					
Protected Phases				6	6		3	8			4	
Permitted Phases												
Actuated Green, G (s)					55.9		3.2	16.1			8.9	
Effective Green, g (s)					55.9		3.2	16.1			8.9	
Actuated g/C Ratio					0.70		0.04	0.20			0.11	
Clearance Time (s)					4.0		4.0	4.0			4.0	
Vehicle Extension (s)					5.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					4438		71	712			368	
v/s Ratio Prot					c0.36		c0.04	0.02			c0.03	
v/s Ratio Perm												
v/c Ratio					0.51		1.04	0.08			0.22	
Uniform Delay, d1					5.7		38.4	26.0			32.4	
Progression Factor					1.00		1.05	1.53			1.00	
Incremental Delay, d2					0.4		117.0	0.0			0.3	
Delay (s)					6.1		157.4	39.7			32.7	
Level of Service					A		F	D			C	
Approach Delay (s)		0.0			6.1			104.7			32.7	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)							4.0		4.0	4.0	4.0	4.0
Lane Util. Factor							1.00		1.00	0.95	0.91	0.95
Frpb, ped/bikes							1.00		0.98	1.00	1.00	0.98
Flpb, ped/bikes							1.00		1.00	1.00	1.00	1.00
Frt							1.00		0.85	1.00	0.98	0.85
Flt Protected							0.95		1.00	0.95	0.96	1.00
Satd. Flow (prot)							1752		1530	1681	1587	1475
Flt Permitted							0.95		1.00	0.95	0.96	1.00
Satd. Flow (perm)							1752		1530	1681	1587	1475
Volume (vph)	0	0	0	0	0	0	48	0	31	1307	22	755
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	52	0	34	1421	24	821
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	30	173	139	154
Lane Group Flow (vph)	0	0	0	0	0	0	52	0	4	621	624	555
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Turn Type							Prot		custom	Split		Perm
Protected Phases							4			2	2	
Permitted Phases									4			2
Actuated Green, G (s)							9.4		9.4	62.6	62.6	62.6
Effective Green, g (s)							9.4		9.4	62.6	62.6	62.6
Actuated g/C Ratio							0.12		0.12	0.78	0.78	0.78
Clearance Time (s)							4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)							5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)							206		180	1315	1242	1154
v/s Ratio Prot							c0.03			0.47	c0.48	
v/s Ratio Perm									0.02			0.48
v/c Ratio							0.25		0.02	0.47	0.50	0.48
Uniform Delay, d1							32.1		31.2	3.0	3.1	3.0
Progression Factor							1.00		1.00	2.07	1.37	2.35
Incremental Delay, d2							1.4		0.1	0.9	1.1	1.0
Delay (s)							33.5		31.3	7.1	5.3	8.2
Level of Service							C		C	A	A	A
Approach Delay (s)		0.0			0.0			32.6			6.8	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM Average Control Delay	7.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0			
Lane Util. Factor		0.91						0.86	0.86			
Frpb, ped/bikes		1.00						1.00	0.98			
Flpb, ped/bikes		1.00						1.00	1.00			
Frt		1.00						1.00	0.85			
Flt Protected		1.00						1.00	1.00			
Satd. Flow (prot)		5080						4806	1335			
Flt Permitted		1.00						1.00	1.00			
Satd. Flow (perm)		5080						4806	1335			
Volume (vph)	29	1296	0	0	0	0	0	882	189	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	1409	0	0	0	0	0	959	205	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	6	0	0	0
Lane Group Flow (vph)	0	1441	0	0	0	0	0	959	199	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm			
Protected Phases	4	4						2			6	
Permitted Phases									2			
Actuated Green, G (s)		34.0						38.0	38.0			
Effective Green, g (s)		34.0						38.0	38.0			
Actuated g/C Ratio		0.42						0.48	0.48			
Clearance Time (s)		4.0						4.0	4.0			
Vehicle Extension (s)		3.0						5.0	5.0			
Lane Grp Cap (vph)		2159						2283	634			
v/s Ratio Prot		c0.28						c0.20				
v/s Ratio Perm									0.15			
v/c Ratio		0.67						0.42	0.31			
Uniform Delay, d1		18.5						13.8	13.0			
Progression Factor		0.57						1.00	1.00			
Incremental Delay, d2		1.4						0.6	1.3			
Delay (s)		12.0						14.3	14.3			
Level of Service		B						B	B			
Approach Delay (s)		12.0			0.0			14.3			0.0	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	13.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91						0.91	0.91	1.00	0.95	
Frpb, ped/bikes		1.00						0.99	0.98	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	1.00	1.00	
Frt		0.97						0.91	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		4897						3055	1416	1770	3539	
Flt Permitted		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (perm)		4897						3055	1416	1770	3539	
Volume (vph)	28	1187	337	0	0	0	0	94	278	14	328	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	30	1290	366	0	0	0	0	102	302	15	357	0
RTOR Reduction (vph)	0	39	0	0	0	0	0	88	88	0	0	0
Lane Group Flow (vph)	0	1647	0	0	0	0	0	165	63	15	357	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm	Prot		
Protected Phases	2	2						8		7	4	
Permitted Phases									8			
Actuated Green, G (s)		55.7						11.3	11.3	1.0	16.3	
Effective Green, g (s)		55.7						11.3	11.3	1.0	16.3	
Actuated g/C Ratio		0.70						0.14	0.14	0.01	0.20	
Clearance Time (s)		4.0						4.0	4.0	4.0	4.0	
Vehicle Extension (s)		5.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		3410						432	200	22	721	
v/s Ratio Prot		c0.34						0.08		0.01	c0.10	
v/s Ratio Perm									0.11			
v/c Ratio		0.48						0.38	0.31	0.68	0.50	
Uniform Delay, d1		5.6						31.2	30.9	39.3	28.2	
Progression Factor		2.68						1.00	1.00	1.07	1.28	
Incremental Delay, d2		0.4						0.6	0.9	58.6	0.5	
Delay (s)		15.3						31.7	31.8	100.7	36.7	
Level of Service		B						C	C	F	D	
Approach Delay (s)		15.3			0.0			31.7			39.2	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
21: Placer St. & Court St.

AM peak hour conditions
Year 2030 Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3459		1770	3515		1770	3477		1770	3351	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3459		1770	3515		1770	3477		1770	3351	
Volume (vph)	183	760	117	54	622	26	273	371	43	52	548	252
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	199	826	127	59	676	28	297	403	47	57	596	274
RTOR Reduction (vph)	0	15	0	0	4	0	0	10	0	0	66	0
Lane Group Flow (vph)	199	938	0	59	700	0	297	440	0	57	804	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	10.0	24.6		3.2	17.8		14.8	34.9		3.6	23.7	
Effective Green, g (s)	10.0	24.6		3.2	17.8		14.8	34.9		3.6	23.7	
Actuated g/C Ratio	0.12	0.30		0.04	0.22		0.18	0.42		0.04	0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	215	1034		69	760		318	1474		77	965	
v/s Ratio Prot	c0.11	c0.28		0.03	0.20		c0.17	0.13		0.03	c0.26	
v/s Ratio Perm												
v/c Ratio	0.93	0.91		0.86	0.92		0.93	0.30		0.74	0.83	
Uniform Delay, d1	35.8	27.8		39.3	31.6		33.3	15.6		38.9	27.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	40.9	11.3		60.6	16.5		33.4	0.5		31.3	8.4	
Delay (s)	76.7	39.0		99.9	48.0		66.7	16.1		70.2	35.9	
Level of Service	E	D		F	D		E	B		E	D	
Approach Delay (s)		45.5			52.1			36.3			38.0	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	43.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	82.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
22: Placer St. & Airpark Dr.

AM peak hour conditions
Year 2030 Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			0.99			0.98	
Flpb, ped/bikes	0.80	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.95		1.00	1.00			0.93			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1399	3303		1752	3503			1661			1624	
Flt Permitted	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (perm)	1399	3303		1752	3503			1661			1624	
Volume (vph)	2	1145	499	315	337	1	132	1	124	2	0	4
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	1245	542	342	366	1	143	1	135	2	0	4
RTOR Reduction (vph)	0	29	0	0	0	0	0	22	0	0	4	0
Lane Group Flow (vph)	2	1758	0	342	367	0	0	257	0	0	2	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	0.7	73.5		26.1	98.9			22.1			4.1	
Effective Green, g (s)	0.7	73.5		26.1	98.9			22.1			4.1	
Actuated g/C Ratio	0.00	0.52		0.18	0.70			0.16			0.03	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	7	1712		322	2443			259			47	
v/s Ratio Prot	0.00	c0.54		c0.20	0.10			c0.17			c0.00	
v/s Ratio Perm												
v/c Ratio	0.29	1.03		1.06	0.15			0.99			0.05	
Uniform Delay, d1	70.3	34.2		57.8	7.2			59.8			66.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	21.2	28.8		67.5	0.0			53.6			0.4	
Delay (s)	91.5	63.0		125.4	7.3			113.4			67.3	
Level of Service	F	E		F	A			F			E	
Approach Delay (s)		63.0			64.2			113.4			67.3	
Approach LOS		E			E			F			E	

Intersection Summary			
HCM Average Control Delay	68.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	141.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
23: Placer St. & Pleasant St.

AM peak hour conditions
Year 2030 Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.86		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3502		1751	3420		1743	1550		1752	1552	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1752	3502		1751	3420		1743	1550		1752	1552	
Volume (vph)	147	1512	6	12	373	58	4	1	26	153	4	88
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	160	1643	7	13	405	63	4	1	28	166	4	96
RTOR Reduction (vph)	0	0	0	0	13	0	0	26	0	0	77	0
Lane Group Flow (vph)	160	1650	0	13	455	0	4	3	0	166	23	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	8.6	36.6		0.5	28.5		0.5	3.9		9.7	13.1	
Effective Green, g (s)	8.6	36.6		0.5	28.5		0.5	3.9		9.7	13.1	
Actuated g/C Ratio	0.13	0.55		0.01	0.43		0.01	0.06		0.15	0.20	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	226	1922		13	1461		13	91		255	305	
v/s Ratio Prot	c0.09	c0.47		0.01	0.14		0.00	0.02		c0.09	c0.06	
v/s Ratio Perm												
v/c Ratio	0.71	0.86		1.00	0.31		0.31	0.03		0.65	0.07	
Uniform Delay, d1	27.8	12.8		33.1	12.6		32.9	29.6		26.9	21.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.7	4.1		249.6	0.1		13.0	0.1		5.8	0.1	
Delay (s)	37.6	16.9		282.7	12.7		45.9	29.7		32.7	22.0	
Level of Service	D	B		F	B		D	C		C	C	
Approach Delay (s)		18.7			20.0			31.7			28.7	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	20.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	66.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Salt Creek Heights
24: Placer St. & Buenaventura Blvd.

AM peak hour conditions
Year 2030 Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1523	1770	3316		1770	1863	1547	1770	3394	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1523	1770	3316		1770	1863	1547	1770	3394	
Volume (vph)	182	1043	165	125	266	136	144	519	181	355	309	97
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	198	1134	179	136	289	148	157	564	197	386	336	105
RTOR Reduction (vph)	0	0	34	0	52	0	0	0	74	0	24	0
Lane Group Flow (vph)	198	1134	145	136	385	0	157	564	123	386	417	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	17.6	36.0	36.0	9.0	27.4		14.9	35.0	35.0	24.0	44.1	
Effective Green, g (s)	17.6	36.0	36.0	9.0	27.4		14.9	35.0	35.0	24.0	44.1	
Actuated g/C Ratio	0.15	0.30	0.30	0.08	0.23		0.12	0.29	0.29	0.20	0.37	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	260	1062	457	133	757		220	543	451	354	1247	
v/s Ratio Prot	0.11	c0.32		c0.08	0.13		0.09	c0.30		c0.22	0.13	
v/s Ratio Perm			0.12						0.13			
v/c Ratio	0.76	1.07	0.32	1.02	0.51		0.71	1.04	0.27	1.09	0.33	
Uniform Delay, d1	49.2	42.0	32.5	55.5	40.4		50.5	42.5	32.7	48.0	27.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	12.4	47.6	0.4	84.2	0.5		10.4	49.0	0.3	74.3	0.2	
Delay (s)	61.6	89.6	32.9	139.7	41.0		60.9	91.5	33.0	122.3	27.5	
Level of Service	E	F	C	F	D		E	F	C	F	C	
Approach Delay (s)		79.2			64.4			73.7			71.7	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM Average Control Delay	74.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	167	24	28	4	3	12	10	754	8	24	646	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	182	26	30	4	3	13	11	820	9	26	702	36
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1620	1614	712	1649	1642	830	743			833		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1620	1614	712	1649	1642	830	743			833		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	73	93	92	97	96	99			97		
cM capacity (veh/h)	73	98	427	55	94	366	856			792		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	238	21	11	820	9	26	702	36
Volume Left	182	4	11	0	0	26	0	0
Volume Right	30	13	0	0	9	0	0	36
cSH	85	139	856	1700	1700	792	1700	1700
Volume to Capacity	2.81	0.15	0.01	0.48	0.01	0.03	0.41	0.02
Queue Length 95th (ft)	576	13	1	0	0	3	0	0
Control Delay (s)	922.2	35.5	9.3	0.0	0.0	9.7	0.0	0.0
Lane LOS	F	E	A			A		
Approach Delay (s)	922.2	35.5	0.1			0.3		
Approach LOS	F	E						

Intersection Summary				
Average Delay	118.5			
Intersection Capacity Utilization	65.3%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	3	794	479	35	100	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	863	521	38	109	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	559				1390	521
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	559				1390	521
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				30	98
cM capacity (veh/h)	1007				156	554

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	3	863	521	38	117
Volume Left	3	0	0	0	109
Volume Right	0	0	0	38	9
cSH	1007	1700	1700	1700	164
Volume to Capacity	0.00	0.51	0.31	0.02	0.71
Queue Length 95th (ft)	0	0	0	0	108
Control Delay (s)	8.6	0.0	0.0	0.0	68.4
Lane LOS	A				F
Approach Delay (s)	0.0		0.0		68.4
Approach LOS					F

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	26	9	67	65	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	28	10	73	71	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	163	71	71			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	163	71	71			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	99			
cM capacity (veh/h)	820	989	1523			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	28	83	71
Volume Left	0	10	0
Volume Right	28	0	0
cSH	989	1523	1700
Volume to Capacity	0.03	0.01	0.04
Queue Length 95th (ft)	2	0	0
Control Delay (s)	8.7	0.9	0.0
Lane LOS	A	A	
Approach Delay (s)	8.7	0.9	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	20.7%	ICU Level of Service	A
Analysis Period (min)	15		

Salt Creek Heights
1: Eureka Way(SR 299) & Lower Springs Rd.

PM peak hour conditions
Year 2030 Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	11	506	2	42	577	111	4	0	31	67	0	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	550	2	46	627	121	4	0	34	73	0	7
Pedestrians		5			5			5				
Lane Width (ft)		12.0			12.0			12.0				
Walking Speed (ft/s)		4.0			4.0			4.0				
Percent Blockage		0			0			0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	748			557			1310	1419	561	1331	1300	632
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	748			557			1310	1419	561	1331	1300	632
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			95			97	100	94	37	100	99
cM capacity (veh/h)	856			1009			127	127	523	116	151	476

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	12	552	46	627	121	38	73	7
Volume Left	12	0	46	0	0	4	73	0
Volume Right	0	2	0	0	121	34	0	7
cSH	856	1700	1009	1700	1700	385	116	476
Volume to Capacity	0.01	0.32	0.05	0.37	0.07	0.10	0.63	0.01
Queue Length 95th (ft)	1	0	4	0	0	8	80	1
Control Delay (s)	9.3	0.0	8.7	0.0	0.0	15.4	77.8	12.7
Lane LOS	A		A			C	F	B
Approach Delay (s)	0.2		0.5			15.4	72.4	
Approach LOS						C	F	

Intersection Summary				
Average Delay	4.6			
Intersection Capacity Utilization	51.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Salt Creek Heights
2: Eureka Way & Buenaventura Blvd.

PM peak hour conditions
Year 2030 Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	0.91	0.95		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00		0.98	
Satd. Flow (prot)	1770	3539	1553	1770	3539	1533	1681	1673	1474		1785	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00		0.98	
Satd. Flow (perm)	1770	3539	1553	1770	3539	1533	1681	1673	1474		1785	
Volume (vph)	40	441	377	320	691	380	343	203	285	163	128	39
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	479	410	348	751	413	373	221	310	177	139	42
RTOR Reduction (vph)	0	0	335	0	0	259	0	0	234	0	6	0
Lane Group Flow (vph)	43	479	75	348	751	154	296	298	76	0	352	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot		Perm	Split		Perm	Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	3.5	16.1	16.1	20.3	32.9	32.9	17.2	17.2	17.2		18.5	
Effective Green, g (s)	3.5	16.1	16.1	20.3	32.9	32.9	17.2	17.2	17.2		18.5	
Actuated g/C Ratio	0.04	0.18	0.18	0.23	0.37	0.37	0.20	0.20	0.20		0.21	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	70	647	284	408	1322	572	328	327	288		375	
v/s Ratio Prot	0.02	0.14		c0.20	0.21		0.18	0.18			c0.20	
v/s Ratio Perm			0.26			0.27			0.21			
v/c Ratio	0.61	0.74	0.26	0.85	0.57	0.27	0.90	0.91	0.26		0.94	
Uniform Delay, d1	41.6	34.0	30.9	32.5	21.9	19.2	34.6	34.7	30.1		34.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	
Incremental Delay, d2	14.9	4.6	0.5	15.7	0.6	0.3	26.6	28.3	0.5		31.0	
Delay (s)	56.6	38.6	31.4	48.2	22.5	19.5	61.2	63.0	30.6		65.3	
Level of Service	E	D	C	D	C	B	E	E	C		E	
Approach Delay (s)		36.3			27.6			51.3			65.3	
Approach LOS		D			C			D			E	

Intersection Summary			
HCM Average Control Delay	39.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	88.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.97	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.96	
Flt Protected	0.95	1.00	1.00	1.00	0.97	
Satd. Flow (prot)	1770	3539	3539	1538	1714	
Flt Permitted	0.95	1.00	1.00	1.00	0.97	
Satd. Flow (perm)	1770	3539	3539	1538	1714	
Volume (vph)	48	696	1385	108	90	42
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	757	1505	117	98	46
RTOR Reduction (vph)	0	0	0	52	22	0
Lane Group Flow (vph)	52	757	1505	65	122	0
Confl. Peds. (#/hr)	5			5	5	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Perm		
Protected Phases	7	4	8		6	
Permitted Phases				8		
Actuated Green, G (s)	3.3	39.0	31.7	31.7	10.1	
Effective Green, g (s)	3.3	39.0	31.7	31.7	10.1	
Actuated g/C Ratio	0.06	0.68	0.56	0.56	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	102	2417	1965	854	303	
v/s Ratio Prot	c0.03	0.21	c0.43		c0.08	
v/s Ratio Perm				0.08		
v/c Ratio	0.51	0.31	0.77	0.08	0.40	
Uniform Delay, d1	26.1	3.6	9.8	5.9	20.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.0	0.1	1.8	0.0	0.9	
Delay (s)	30.1	3.7	11.7	5.9	21.7	
Level of Service	C	A	B	A	C	
Approach Delay (s)		5.4	11.3		21.7	
Approach LOS		A	B		C	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	57.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	45	708	1014	28	47	83
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	770	1102	30	51	90
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1138				1610	576
vC1, stage 1 conf vol					1122	
vC2, stage 2 conf vol					488	
vCu, unblocked vol	1138				1610	576
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	92				74	80
cM capacity (veh/h)	607				199	456

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	49	385	385	735	398	141
Volume Left	49	0	0	0	0	51
Volume Right	0	0	0	0	30	90
cSH	607	1700	1700	1700	1700	311
Volume to Capacity	0.08	0.23	0.23	0.43	0.23	0.45
Queue Length 95th (ft)	7	0	0	0	0	57
Control Delay (s)	11.4	0.0	0.0	0.0	0.0	25.9
Lane LOS	B					D
Approach Delay (s)	0.7			0.0		25.9
Approach LOS						D

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	813	14	68	1261	13	102
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	884	15	74	1371	14	111
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume			904		1734	459
vC1, stage 1 conf vol					896	
vC2, stage 2 conf vol					838	
vCu, unblocked vol			904		1734	459
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)					5.9	
tF (s)			2.2		3.5	3.3
p0 queue free %			90		93	80
cM capacity (veh/h)			739		191	541

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1
Volume Total	589	310	74	685	685	125
Volume Left	0	0	74	0	0	14
Volume Right	0	15	0	0	0	111
cSH	1700	1700	739	1700	1700	448
Volume to Capacity	0.35	0.18	0.10	0.40	0.40	0.28
Queue Length 95th (ft)	0	0	8	0	0	28
Control Delay (s)	0.0	0.0	10.4	0.0	0.0	16.1
Lane LOS			B			C
Approach Delay (s)	0.0		0.5			16.1
Approach LOS						C

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.95		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (prot)	1770	3531		1770	3539	1538		1744		1681	1594	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99		0.95	0.98	
Satd. Flow (perm)	1770	3531		1770	3539	1538		1744		1681	1594	
Volume (vph)	60	751	10	22	1302	23	17	25	21	37	4	13
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	816	11	24	1415	25	18	27	23	40	4	14
RTOR Reduction (vph)	0	1	0	0	0	11	0	21	0	0	13	0
Lane Group Flow (vph)	65	826	0	24	1415	14	0	47	0	30	15	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot		Perm	Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						
Actuated Green, G (s)	3.1	37.0		1.4	35.3	35.3		4.6		4.3	4.3	
Effective Green, g (s)	3.1	37.0		1.4	35.3	35.3		4.6		4.3	4.3	
Actuated g/C Ratio	0.05	0.58		0.02	0.56	0.56		0.07		0.07	0.07	
Clearance Time (s)	4.0	4.0		4.0	4.0	4.0		4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	87	2064		39	1974	858		127		114	108	
v/s Ratio Prot	c0.04	0.23		0.01	c0.40			c0.04		c0.02	0.02	
v/s Ratio Perm						0.02						
v/c Ratio	0.75	0.40		0.62	0.72	0.02		0.37		0.26	0.14	
Uniform Delay, d1	29.7	7.1		30.7	10.3	6.2		28.0		28.0	27.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	29.0	0.1		25.5	1.3	0.0		1.8		1.2	0.6	
Delay (s)	58.7	7.3		56.2	11.6	6.3		29.8		29.2	28.3	
Level of Service	E	A		E	B	A		C		C	C	
Approach Delay (s)		11.0			12.2			29.8			28.8	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.98		1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (prot)	1770	3532		1770	3491			1817	1554		1795	1554
Flt Permitted	0.95	1.00		0.95	1.00			0.98	1.00		0.96	1.00
Satd. Flow (perm)	1770	3532		1770	3491			1817	1554		1795	1554
Volume (vph)	36	773	8	58	1276	106	15	15	38	130	41	83
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	840	9	63	1387	115	16	16	41	141	45	90
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	38	0	0	78
Lane Group Flow (vph)	39	849	0	63	1497	0	0	32	3	0	186	12
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			6
Actuated Green, G (s)	1.9	36.3		3.8	38.2			4.7	4.7		9.4	9.4
Effective Green, g (s)	1.9	36.3		3.8	38.2			4.7	4.7		9.4	9.4
Actuated g/C Ratio	0.03	0.52		0.05	0.54			0.07	0.07		0.13	0.13
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	48	1826		96	1900			122	104		240	208
v/s Ratio Prot	0.02	0.24		c0.04	c0.43			0.02			c0.10	
v/s Ratio Perm									0.03			0.06
v/c Ratio	0.81	0.46		0.66	0.79			0.26	0.03		0.78	0.06
Uniform Delay, d1	34.0	10.8		32.6	12.8			31.1	30.6		29.4	26.5
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	64.2	0.2		15.0	2.2			1.2	0.1		14.4	0.1
Delay (s)	98.2	11.0		47.6	15.0			32.3	30.7		43.8	26.7
Level of Service	F	B		D	B			C	C		D	C
Approach Delay (s)		14.8			16.3			31.4			38.2	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	70.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	161	1174	1065	9	5	247
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	175	1276	1158	10	5	268
Pedestrians		5	5		5	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type					TWLTL	
Median storage veh)					1	
Upstream signal (ft)		771	933			
pX, platoon unblocked						
vC, conflicting volume	1172				2161	594
vC1, stage 1 conf vol					1168	
vC2, stage 2 conf vol					993	
vCu, unblocked vol	1172				2161	594
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	70				96	40
cM capacity (veh/h)	589				122	445

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB
Volume Total	175	638	638	772	396	274
Volume Left	175	0	0	0	0	5
Volume Right	0	0	0	0	10	268
cSH	589	1700	1700	1700	1700	422
Volume to Capacity	0.30	0.38	0.38	0.45	0.23	0.65
Queue Length 95th (ft)	31	0	0	0	0	112
Control Delay (s)	13.7	0.0	0.0	0.0	0.0	27.9
Lane LOS	B					D
Approach Delay (s)	1.6			0.0		27.9
Approach LOS						D

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	5	986	16	1	1177	106	16	46	48	62	0	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	1072	17	1	1279	115	17	50	52	67	0	8
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)		1263			441							
pX, platoon unblocked												
vC, conflicting volume	1400			1094			1751	2498	555	1973	2449	707
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1400			1094			1751	2498	555	1973	2449	707
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			100			67	0	89	0	100	98
cM capacity (veh/h)	482			631			52	28	472	0	30	374

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	5	714	375	1	853	542	120	75
Volume Left	5	0	0	1	0	0	17	67
Volume Right	0	0	17	0	0	115	52	8
cSH	482	1700	1700	631	1700	1700	53	0
Volume to Capacity	0.01	0.42	0.22	0.00	0.50	0.32	2.24	Err
Queue Length 95th (ft)	1	0	0	0	0	0	300	Err
Control Delay (s)	12.6	0.0	0.0	10.7	0.0	0.0	732.6	Err
Lane LOS	B			B			F	F
Approach Delay (s)	0.1			0.0			732.6	Err
Approach LOS							F	F

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1556	1770	3434		1770	1863	1557	1770	1824	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1556	1770	3434		1770	1863	1557	1770	1824	
Volume (vph)	89	718	309	284	887	177	430	380	220	88	273	39
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	780	336	309	964	192	467	413	239	96	297	42
RTOR Reduction (vph)	0	0	152	0	17	0	0	0	118	0	6	0
Lane Group Flow (vph)	97	780	184	309	1139	0	467	413	121	96	333	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	12.0	30.5	30.5	16.2	34.7		4.5	26.3	26.3	4.0	26.3	
Effective Green, g (s)	11.5	31.0	31.0	15.7	35.2		4.0	26.3	26.3	4.0	26.3	
Actuated g/C Ratio	0.12	0.33	0.33	0.17	0.38		0.04	0.28	0.28	0.04	0.28	
Clearance Time (s)	3.5	4.5	4.5	3.5	4.5		3.5	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.0	4.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	219	1180	519	299	1300		76	527	440	76	516	
v/s Ratio Prot	0.05	0.22		c0.17	c0.34		c0.26	c0.22		0.05	0.19	
v/s Ratio Perm			0.22						0.15			
v/c Ratio	0.44	0.66	0.35	1.03	0.88		6.14	0.78	0.27	1.26	0.64	
Uniform Delay, d1	37.8	26.5	23.4	38.6	26.9		44.5	30.7	25.9	44.5	29.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	2.9	1.9	61.0	8.5		2343.1	7.5	0.3	189.5	2.8	
Delay (s)	39.2	29.4	25.3	99.6	35.4		2387.6	38.2	26.3	234.0	32.0	
Level of Service	D	C	C	F	D		F	D	C	F	C	
Approach Delay (s)		29.1			48.9			1016.1			76.6	
Approach LOS		C			D			F			E	

Intersection Summary			
HCM Average Control Delay	301.8	HCM Level of Service	F
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	93.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	260	73	46	475	259	277
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	283	79	50	516	282	301
Pedestrians	5			5	5	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	0			0	0	
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				713	990	
pX, platoon unblocked						
vC, conflicting volume	1058	442	588			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1058	442	588			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	87	95			
cM capacity (veh/h)	234	610	983			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	362	50	516	583
Volume Left	283	50	0	0
Volume Right	79	0	0	301
cSH	271	983	1700	1700
Volume to Capacity	1.34	0.05	0.30	0.34
Queue Length 95th (ft)	467	4	0	0
Control Delay (s)	211.5	8.9	0.0	0.0
Lane LOS	F	A		
Approach Delay (s)	211.5	0.8		0.0
Approach LOS	F			

Intersection Summary				
Average Delay		51.0		
Intersection Capacity Utilization		63.2%	ICU Level of Service	B
Analysis Period (min)		15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			0.95			0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99			0.97			0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3539	1555	1770	3511			3368			3246	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.99			0.99	
Satd. Flow (perm)	1770	3539	1555	1770	3511			3368			3246	
Volume (vph)	75	892	137	16	1094	54	50	107	40	19	72	80
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	970	149	17	1189	59	54	116	43	21	78	87
RTOR Reduction (vph)	0	0	42	0	3	0	0	27	0	0	77	0
Lane Group Flow (vph)	82	970	107	17	1245	0	0	186	0	0	109	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Split			Split		
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases			2									
Actuated Green, G (s)	9.1	53.5	53.5	2.3	46.7			12.2			11.5	
Effective Green, g (s)	9.1	54.0	54.0	2.3	47.2			12.2			11.5	
Actuated g/C Ratio	0.09	0.56	0.56	0.02	0.49			0.13			0.12	
Clearance Time (s)	4.0	4.5	4.5	4.0	4.5			4.0			4.0	
Vehicle Extension (s)	2.5	5.0	5.0	2.5	5.0			3.0			3.0	
Lane Grp Cap (vph)	168	1991	875	42	1726			428			389	
v/s Ratio Prot	c0.05	0.27		0.01	c0.36			c0.06			c0.06	
v/s Ratio Perm			0.10									
v/c Ratio	0.49	0.49	0.12	0.40	0.72			0.43			0.28	
Uniform Delay, d1	41.2	12.7	9.9	46.2	19.2			38.7			38.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.6	0.9	0.3	4.6	2.6			0.7			0.4	
Delay (s)	42.9	13.5	10.2	50.8	21.9			39.4			38.9	
Level of Service	D	B	B	D	C			D			D	
Approach Delay (s)		15.1			22.3			39.4			38.9	
Approach LOS		B			C			D			D	

Intersection Summary				
HCM Average Control Delay	21.6	HCM Level of Service	C	
HCM Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	96.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	65.5%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Lane Util. Factor	1.00		0.88	0.91	0.91	0.88					0.95	1.00
Frpb, ped/bikes	1.00		0.98	1.00	1.00	0.97					1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85					1.00	0.85
Flt Protected	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (prot)	1770		2728	1610	3390	2711					3539	1558
Flt Permitted	0.95		1.00	0.95	1.00	1.00					1.00	1.00
Satd. Flow (perm)	1770		2728	1610	3390	2711					3539	1558
Volume (vph)	508	0	587	67	771	952	0	0	0	0	815	326
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	552	0	638	73	838	1035	0	0	0	0	886	354
RTOR Reduction (vph)	0	0	533	22	0	697	0	0	0	0	0	219
Lane Group Flow (vph)	552	0	105	51	838	338	0	0	0	0	886	135
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		custom	Split		Perm						Perm
Protected Phases	2			8	8						1	
Permitted Phases			2			8						1
Actuated Green, G (s)	13.2		13.2	26.1	26.1	26.1					28.7	28.7
Effective Green, g (s)	13.2		13.2	26.1	26.1	26.1					28.7	28.7
Actuated g/C Ratio	0.16		0.16	0.33	0.33	0.33					0.36	0.36
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0					4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0					5.0	5.0
Lane Grp Cap (vph)	292		450	525	1106	884					1270	559
v/s Ratio Prot	c0.31			0.05	0.25						c0.25	
v/s Ratio Perm			0.23			0.38						0.23
v/c Ratio	1.89		0.23	0.10	0.76	0.38					0.70	0.24
Uniform Delay, d1	33.4		29.0	18.7	24.1	20.7					21.9	18.0
Progression Factor	1.00		1.00	1.00	1.00	1.00					1.00	1.00
Incremental Delay, d2	413.4		1.2	0.1	3.0	0.3					2.2	0.5
Delay (s)	446.8		30.2	18.8	27.1	21.0					24.1	18.5
Level of Service	F		C	B	C	C					C	B
Approach Delay (s)		223.4			23.6			0.0			22.5	
Approach LOS		F			C			A			C	

Intersection Summary			
HCM Average Control Delay	77.6	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		0.95			0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.94		1.00	0.98		1.00	0.98	
Flt Protected		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3384			3232		1770	3442		1770	3471	
Flt Permitted		0.99			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		3384			3232		1770	3442		1770	3471	
Volume (vph)	32	171	59	300	299	406	16	690	121	124	743	96
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	186	64	326	325	441	17	750	132	135	808	104
RTOR Reduction (vph)	0	31	0	0	130	0	0	15	0	0	10	0
Lane Group Flow (vph)	0	254	0	0	962	0	17	867	0	135	902	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split			Split			Prot			Prot		
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)		11.7			27.0		1.6	25.5		8.0	31.9	
Effective Green, g (s)		11.7			27.0		1.6	25.5		8.0	31.9	
Actuated g/C Ratio		0.13			0.31		0.02	0.29		0.09	0.36	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		449			989		32	995		161	1255	
v/s Ratio Prot		c0.08			c0.34		0.01	c0.26		c0.08	0.26	
v/s Ratio Perm												
v/c Ratio		0.57			0.97		0.53	0.87		0.84	0.72	
Uniform Delay, d1		35.9			30.2		42.9	29.8		39.5	24.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6			22.0		15.9	10.4		29.9	3.6	
Delay (s)		37.5			52.2		58.8	40.2		69.4	27.8	
Level of Service		D			D		E	D		E	C	
Approach Delay (s)		37.5			52.2			40.5			33.2	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	41.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
15: Shasta St. & Market St.(SR 273)

PM peak hour conditions
Year 2030 Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0						4.0	
Lane Util. Factor			0.88	0.97	0.95						0.91	
Frpb, ped/bikes			1.00	1.00	1.00						1.00	
Flpb, ped/bikes			1.00	1.00	1.00						1.00	
Frt			0.85	1.00	1.00						0.99	
Flt Protected			1.00	0.95	1.00						1.00	
Satd. Flow (prot)			2787	3433	3539						5042	
Flt Permitted			1.00	0.95	1.00						1.00	
Satd. Flow (perm)			2787	3433	3539						5042	
Volume (vph)	0	0	378	498	912	0	0	0	0	0	1294	70
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	411	541	991	0	0	0	0	0	1407	76
RTOR Reduction (vph)	0	0	54	20	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	357	521	991	0	0	0	0	0	1475	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type			custom	Split								
Protected Phases			7	8	8						6	
Permitted Phases												
Actuated Green, G (s)			14.3	22.0	22.0						31.2	
Effective Green, g (s)			14.3	22.0	22.0						31.7	
Actuated g/C Ratio			0.18	0.28	0.28						0.40	
Clearance Time (s)			4.0	4.0	4.0						4.5	
Vehicle Extension (s)			3.0	3.0	3.0						5.0	
Lane Grp Cap (vph)			498	944	973						1998	
v/s Ratio Prot			c0.15	0.16	c0.28						c0.29	
v/s Ratio Perm												
v/c Ratio			0.72	0.55	1.02						0.74	
Uniform Delay, d1			30.9	24.8	29.0						20.6	
Progression Factor			1.00	1.00	1.00						0.86	
Incremental Delay, d2			8.6	0.7	33.6						1.4	
Delay (s)			39.5	25.5	62.6						19.0	
Level of Service			D	C	E						B	
Approach Delay (s)		39.5			49.5			0.0			19.0	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM Average Control Delay	35.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Salt Creek Heights
16: Shasta St. & Pine St.(SR273 NB)

PM peak hour conditions
Year 2030 Plus Project Conditions

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0				
Lane Util. Factor					0.86	0.86		0.91				
Frpb, ped/bikes					1.00	0.98		1.00				
Flpb, ped/bikes					1.00	1.00		1.00				
Frt					0.98	0.85		1.00				
Flt Protected					1.00	1.00		0.99				
Satd. Flow (prot)					4670	1334		5037				
Flt Permitted					1.00	1.00		0.99				
Satd. Flow (perm)					4670	1334		5037				
Volume (vph)	0	0	0	0	915	794	299	1248	0	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	995	863	325	1357	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	24	222	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1169	443	0	1682	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type						Perm	Split					
Protected Phases					8		2	2			6	
Permitted Phases						8						
Actuated Green, G (s)					34.1	34.1		40.7				
Effective Green, g (s)					34.1	34.1		40.7				
Actuated g/C Ratio					0.38	0.38		0.45				
Clearance Time (s)					4.0	4.0		4.0				
Vehicle Extension (s)					3.0	3.0		5.0				
Lane Grp Cap (vph)					1769	505		2278				
v/s Ratio Prot					0.26			c0.33				
v/s Ratio Perm						0.50						
v/c Ratio					0.66	0.88		0.74				
Uniform Delay, d1					23.2	26.0		20.3				
Progression Factor					1.00	1.00		1.00				
Incremental Delay, d2					2.0	18.9		1.6				
Delay (s)					25.1	44.9		21.8				
Level of Service					C	D		C				
Approach Delay (s)		0.0			32.2			21.8			0.0	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM Average Control Delay	27.3	HCM Level of Service	C
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0			4.0	
Lane Util. Factor					0.86		1.00	0.95			0.95	
Frpb, ped/bikes					1.00		1.00	1.00			1.00	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.99	
Flt Protected					0.99		0.95	1.00			1.00	
Satd. Flow (prot)					6258		1770	3539			3482	
Flt Permitted					0.99		0.95	1.00			1.00	
Satd. Flow (perm)					6258		1770	3539			3482	
Volume (vph)	0	0	0	300	1379	171	102	81	0	0	111	12
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	326	1499	186	111	88	0	0	121	13
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	0	0	0	1997	0	111	88	0	0	123	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type				Split			Prot					
Protected Phases				6	6		3	8			4	
Permitted Phases												
Actuated Green, G (s)					54.4		4.3	17.6			9.3	
Effective Green, g (s)					54.4		4.3	17.6			9.3	
Actuated g/C Ratio					0.68		0.05	0.22			0.12	
Clearance Time (s)					4.0		4.0	4.0			4.0	
Vehicle Extension (s)					5.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					4255		95	779			405	
v/s Ratio Prot					c0.32		c0.06	0.02			c0.04	
v/s Ratio Perm												
v/c Ratio					0.47		1.17	0.11			0.30	
Uniform Delay, d1					6.0		37.8	25.0			32.4	
Progression Factor					1.00		0.99	1.52			1.00	
Incremental Delay, d2					0.4		136.8	0.1			0.4	
Delay (s)					6.4		174.5	38.0			32.8	
Level of Service					A		F	D			C	
Approach Delay (s)		0.0			6.4			114.1			32.8	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)							4.0		4.0	4.0	4.0	4.0
Lane Util. Factor							1.00		1.00	0.95	0.91	0.95
Frpb, ped/bikes							1.00		0.98	1.00	1.00	0.98
Flpb, ped/bikes							1.00		1.00	1.00	1.00	1.00
Frt							1.00		0.85	1.00	1.00	0.85
Flt Protected							0.95		1.00	0.95	0.96	1.00
Satd. Flow (prot)							1752		1531	1681	1618	1475
Flt Permitted							0.95		1.00	0.95	0.96	1.00
Satd. Flow (perm)							1752		1531	1681	1618	1475
Volume (vph)	0	0	0	0	0	0	65	0	31	1513	46	684
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	71	0	34	1645	50	743
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	30	191	177	158
Lane Group Flow (vph)	0	0	0	0	0	0	71	0	4	664	663	585
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Turn Type							Prot		custom	Split		Perm
Protected Phases							4			2	2	
Permitted Phases									4			2
Actuated Green, G (s)							9.9		9.9	62.1	62.1	62.1
Effective Green, g (s)							9.9		9.9	62.1	62.1	62.1
Actuated g/C Ratio							0.12		0.12	0.78	0.78	0.78
Clearance Time (s)							4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)							5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)							217		189	1305	1256	1145
v/s Ratio Prot							c0.04			0.51	c0.52	
v/s Ratio Perm									0.02			0.50
v/c Ratio							0.33		0.02	0.51	0.53	0.51
Uniform Delay, d1							32.0		30.8	3.3	3.4	3.3
Progression Factor							1.00		1.00	2.08	1.87	1.65
Incremental Delay, d2							1.8		0.1	1.1	1.2	1.3
Delay (s)							33.9		30.9	8.0	7.6	6.7
Level of Service							C		C	A	A	A
Approach Delay (s)		0.0			0.0			32.9			7.5	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0			
Lane Util. Factor		0.91						0.86	0.86			
Frpb, ped/bikes		1.00						1.00	0.98			
Flpb, ped/bikes		1.00						1.00	1.00			
Frt		1.00						1.00	0.85			
Flt Protected		1.00						1.00	1.00			
Satd. Flow (prot)		5079						4806	1335			
Flt Permitted		1.00						1.00	1.00			
Satd. Flow (perm)		5079						4806	1335			
Volume (vph)	40	1519	0	0	0	0	0	1449	409	0	0	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	1651	0	0	0	0	0	1575	445	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	3	0	0	0
Lane Group Flow (vph)	0	1694	0	0	0	0	0	1575	442	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm			
Protected Phases	4	4						2			6	
Permitted Phases									2			
Actuated Green, G (s)		34.0						38.0	38.0			
Effective Green, g (s)		34.0						38.0	38.0			
Actuated g/C Ratio		0.42						0.48	0.48			
Clearance Time (s)		4.0						4.0	4.0			
Vehicle Extension (s)		3.0						5.0	5.0			
Lane Grp Cap (vph)		2159						2283	634			
v/s Ratio Prot		c0.33						0.33				
v/s Ratio Perm									0.33			
v/c Ratio		0.78						0.69	0.70			
Uniform Delay, d1		19.8						16.4	16.5			
Progression Factor		0.63						1.00	1.00			
Incremental Delay, d2		2.5						1.7	6.3			
Delay (s)		14.9						18.1	22.8			
Level of Service		B						B	C			
Approach Delay (s)		14.9			0.0			19.2			0.0	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0	4.0	4.0	4.0	
Lane Util. Factor		0.91						0.91	0.91	1.00	0.95	
Frpb, ped/bikes		1.00						0.99	0.98	1.00	1.00	
Flpb, ped/bikes		1.00						1.00	1.00	1.00	1.00	
Frt		0.99						0.91	0.85	1.00	1.00	
Flt Protected		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)		5007						3053	1416	1770	3539	
Flt Permitted		1.00						1.00	1.00	0.95	1.00	
Satd. Flow (perm)		5007						3053	1416	1770	3539	
Volume (vph)	19	1775	177	0	0	0	0	167	502	85	266	0
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	1929	192	0	0	0	0	182	546	92	289	0
RTOR Reduction (vph)	0	13	0	0	0	0	0	15	15	0	0	0
Lane Group Flow (vph)	0	2129	0	0	0	0	0	440	258	92	289	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Split								Perm	Prot		
Protected Phases	2	2						8		7	4	
Permitted Phases									8			
Actuated Green, G (s)		44.9						18.1	18.1	5.0	27.1	
Effective Green, g (s)		44.9						18.1	18.1	5.0	27.1	
Actuated g/C Ratio		0.56						0.23	0.23	0.06	0.34	
Clearance Time (s)		4.0						4.0	4.0	4.0	4.0	
Vehicle Extension (s)		5.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		2810						691	320	111	1199	
v/s Ratio Prot		c0.43						0.15		c0.05	0.08	
v/s Ratio Perm									0.19			
v/c Ratio		0.76						0.64	0.81	0.83	0.24	
Uniform Delay, d1		13.4						28.0	29.3	37.1	19.0	
Progression Factor		1.80						1.00	1.00	1.01	0.92	
Incremental Delay, d2		1.3						1.9	13.8	36.0	0.1	
Delay (s)		25.4						29.9	43.1	73.4	17.6	
Level of Service		C						C	D	E	B	
Approach Delay (s)		25.4			0.0			34.9			31.1	
Approach LOS		C			A			C			C	

Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3507		1770	3488		1770	3427		1770	3260	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3507		1770	3488		1770	3427		1770	3260	
Volume (vph)	156	641	36	43	697	65	137	310	72	18	379	335
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	697	39	47	758	71	149	337	78	20	412	364
RTOR Reduction (vph)	0	5	0	0	9	0	0	23	0	0	192	0
Lane Group Flow (vph)	170	731	0	47	820	0	149	392	0	20	584	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	12.4	30.2		3.4	21.2		9.4	29.5		1.5	21.6	
Effective Green, g (s)	12.4	30.2		3.4	21.2		9.4	29.5		1.5	21.6	
Actuated g/C Ratio	0.15	0.37		0.04	0.26		0.12	0.37		0.02	0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	272	1314		75	917		206	1254		33	874	
v/s Ratio Prot	0.10	c0.21		0.03	c0.24		c0.08	0.12		0.01	c0.24	
v/s Ratio Perm												
v/c Ratio	0.62	0.56		0.63	0.89		0.72	0.31		0.61	0.67	
Uniform Delay, d1	31.9	19.9		38.0	28.6		34.3	18.3		39.3	26.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.4	0.5		15.2	11.1		11.8	0.7		27.6	4.0	
Delay (s)	36.4	20.4		53.2	39.7		46.2	18.9		66.8	30.3	
Level of Service	D	C		D	D		D	B		E	C	
Approach Delay (s)		23.4			40.4			26.1			31.3	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM Average Control Delay	30.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.95	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.97		1.00	1.00			0.94			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (prot)	1660	3372		1752	3502			1677			1644	
Flt Permitted	0.95	1.00		0.95	1.00			0.97			0.98	
Satd. Flow (perm)	1660	3372		1752	3502			1677			1644	
Volume (vph)	6	562	143	125	1103	5	367	1	255	5	1	8
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	611	155	136	1199	5	399	1	277	5	1	9
RTOR Reduction (vph)	0	15	0	0	0	0	0	17	0	0	9	0
Lane Group Flow (vph)	7	751	0	136	1204	0	0	660	0	0	6	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Split			Split		
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)	0.6	36.0		12.4	47.8			50.9			3.8	
Effective Green, g (s)	0.6	36.0		12.4	47.8			50.9			3.8	
Actuated g/C Ratio	0.01	0.30		0.10	0.40			0.43			0.03	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	8	1019		182	1406			717			52	
v/s Ratio Prot	0.00	0.23		c0.08	c0.34			c0.40			c0.01	
v/s Ratio Perm												
v/c Ratio	0.88	0.74		0.75	0.86			0.92			0.12	
Uniform Delay, d1	59.2	37.3		51.8	32.5			32.2			56.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	238.3	2.8		15.4	5.4			17.1			1.0	
Delay (s)	297.5	40.1		67.2	37.9			49.3			57.1	
Level of Service	F	D		E	D			D			E	
Approach Delay (s)		42.4			40.8			49.3			57.1	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM Average Control Delay	43.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	119.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.99		1.00	0.89		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	3498		1752	3478		1752	1621		1752	1549	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1752	3498		1752	3478		1752	1621		1752	1549	
Volume (vph)	34	594	6	21	1318	59	28	8	23	37	3	113
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	646	7	23	1433	64	30	9	25	40	3	123
RTOR Reduction (vph)	0	1	0	0	3	0	0	23	0	0	113	0
Lane Group Flow (vph)	37	652	0	23	1494	0	30	11	0	40	13	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Turn Type	Prot			Prot			Prot			Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	1.0	28.8		1.2	29.0		1.0	4.1		1.0	4.1	
Effective Green, g (s)	1.0	28.8		1.2	29.0		1.0	4.1		1.0	4.1	
Actuated g/C Ratio	0.02	0.56		0.02	0.57		0.02	0.08		0.02	0.08	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	34	1971		41	1974		34	130		34	124	
v/s Ratio Prot	c0.02	0.19		0.01	c0.43		0.02	0.02		c0.02	c0.08	
v/s Ratio Perm												
v/c Ratio	1.09	0.33		0.56	0.76		0.88	0.08		1.18	0.10	
Uniform Delay, d1	25.0	6.0		24.7	8.4		25.0	21.8		25.0	21.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	182.1	0.1		16.4	1.7		106.5	0.3		211.8	0.4	
Delay (s)	207.1	6.1		41.1	10.1		131.5	22.0		236.8	22.2	
Level of Service	F	A		D	B		F	C		F	C	
Approach Delay (s)		16.9			10.5			73.4			73.9	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	51.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.99		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1530	1770	3363		1770	1863	1552	1770	3387	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1530	1770	3363		1770	1863	1552	1770	3387	
Volume (vph)	100	335	100	162	814	307	237	307	76	236	436	148
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	364	109	176	885	334	258	334	83	257	474	161
RTOR Reduction (vph)	0	0	77	0	43	0	0	0	65	0	38	0
Lane Group Flow (vph)	109	364	32	176	1176	0	258	334	18	257	597	0
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	6.0	25.3	25.3	13.1	32.4		14.5	18.6	18.6	14.4	18.5	
Effective Green, g (s)	6.0	25.3	25.3	13.1	32.4		14.5	18.6	18.6	14.4	18.5	
Actuated g/C Ratio	0.07	0.29	0.29	0.15	0.37		0.17	0.21	0.21	0.16	0.21	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	122	1024	443	265	1247		294	396	330	292	717	
v/s Ratio Prot	c0.06	0.10		0.10	c0.36		c0.15	0.18		0.15	c0.19	
v/s Ratio Perm			0.07						0.05			
v/c Ratio	0.89	0.36	0.07	0.66	0.94		0.88	0.84	0.05	0.88	0.83	
Uniform Delay, d1	40.4	24.6	22.5	35.1	26.6		35.6	33.0	27.4	35.7	33.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	49.9	0.2	0.1	6.1	14.0		24.2	15.0	0.1	25.0	8.2	
Delay (s)	90.3	24.8	22.6	41.2	40.6		59.7	48.0	27.5	60.6	41.2	
Level of Service	F	C	C	D	D		E	D	C	E	D	
Approach Delay (s)		36.7			40.7			50.0			46.8	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	43.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	87.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Volume (veh/h)	75	5	25	3	8	19	45	621	5	12	785	129
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	82	5	27	3	9	21	49	675	5	13	853	140
Pedestrians		5			5			5			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1687	1668	863	1692	1802	685	998			685		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1687	1668	863	1692	1802	685	998			685		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	94	92	95	88	95	93			99		
cM capacity (veh/h)	59	87	350	59	72	443	686			900		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	114	33	49	675	5	13	853	140
Volume Left	82	3	49	0	0	13	0	0
Volume Right	27	21	0	0	5	0	0	140
cSH	75	146	686	1700	1700	900	1700	1700
Volume to Capacity	1.52	0.22	0.07	0.40	0.00	0.01	0.50	0.08
Queue Length 95th (ft)	236	20	6	0	0	1	0	0
Control Delay (s)	387.2	36.5	10.6	0.0	0.0	9.1	0.0	0.0
Lane LOS	F	E	B			A		
Approach Delay (s)	387.2	36.5	0.7			0.1		
Approach LOS	F	E						

Intersection Summary				
Average Delay	24.4			
Intersection Capacity Utilization	60.8%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	9	633	625	111	66	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	688	679	121	72	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	800				1387	679
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	800				1387	679
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				54	99
cM capacity (veh/h)	819				155	450

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	10	688	679	121	77
Volume Left	10	0	0	0	72
Volume Right	0	0	0	121	5
cSH	819	1700	1700	1700	162
Volume to Capacity	0.01	0.40	0.40	0.07	0.48
Queue Length 95th (ft)	1	0	0	0	56
Control Delay (s)	9.5	0.0	0.0	0.0	45.8
Lane LOS	A				E
Approach Delay (s)	0.1		0.0		45.8
Approach LOS					E

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	0	23	28	73	75	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	25	30	79	82	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	222	82	82			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	222	82	82			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	98			
cM capacity (veh/h)	749	976	1510			

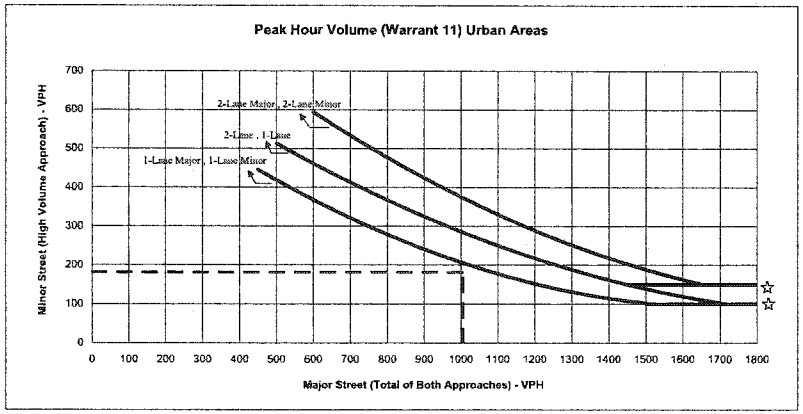
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	25	110	82
Volume Left	0	30	0
Volume Right	25	0	0
cSH	976	1510	1700
Volume to Capacity	0.03	0.02	0.05
Queue Length 95th (ft)	2	2	0
Control Delay (s)	8.8	2.2	0.0
Lane LOS	A	A	
Approach Delay (s)	8.8	2.2	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		

Traffic Signal Warrant Worksheets

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

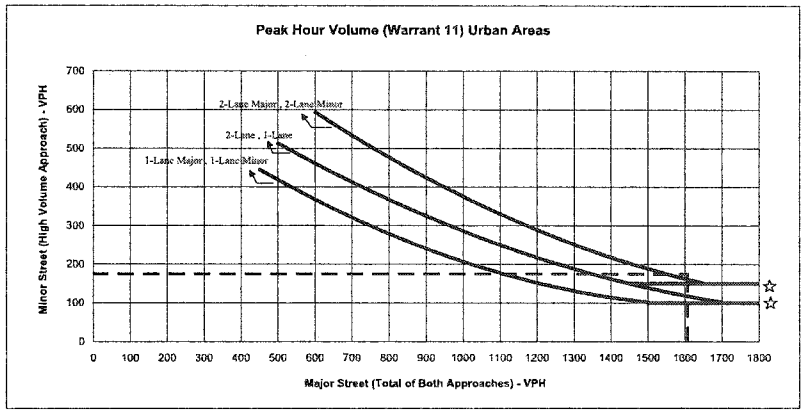


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ Lower Springs Rd
Scenario: 2030 Plus Project AM Peak hour conditions
Minor St. Volume: 181
Major St. Volume: 1005
Warrant Met?: at threshold

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

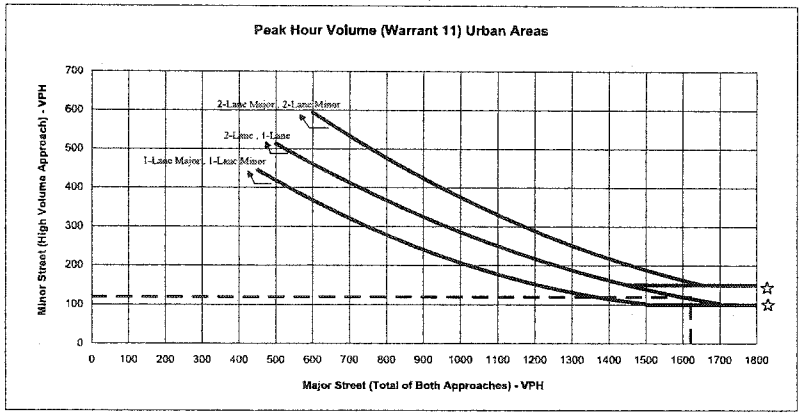


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ Sunset St.
Scenario: Existing AM Peak hour conditions
Minor St. Volume: 175
Major St. Volume: 1607
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

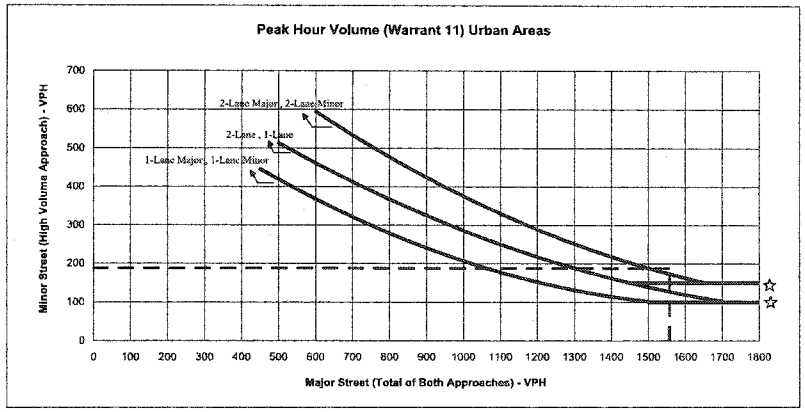


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	Eureka Way (SR299)/ Sunset St.
Scenario:	Existing PM Peak hour conditions
Minor St. Volume:	120
Major St. Volume:	1621
Warrant Met?:	Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

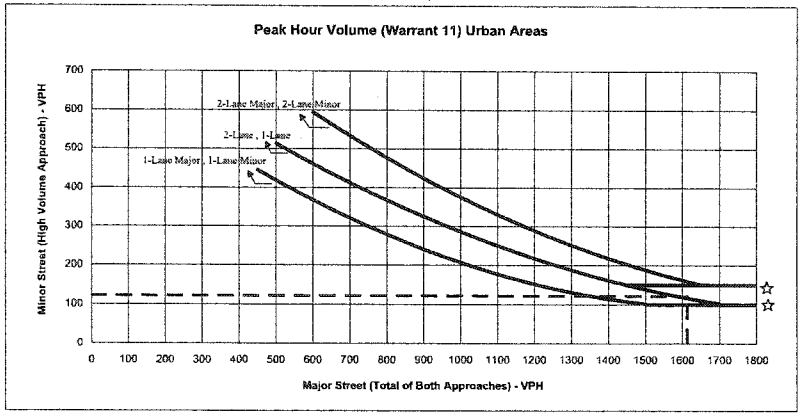


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	Eureka Way (SR299)/ Sunset St.
Scenario:	Short Term No Project AM Peak hour conditions
Minor St. Volume:	188
Major St. Volume:	1557
Warrant Met?:	Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

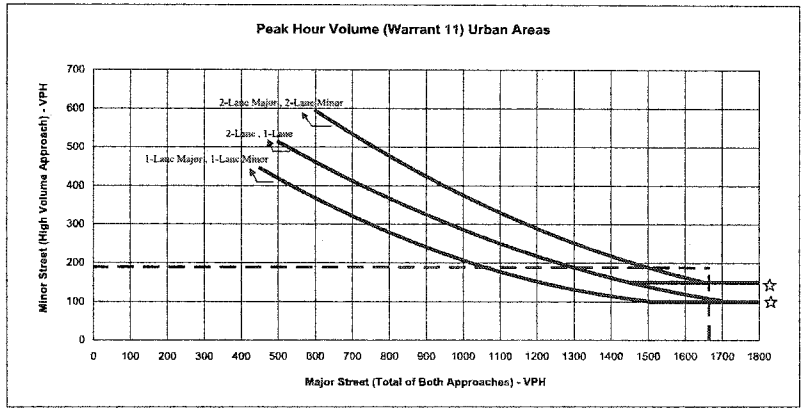


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ Sunset St.
Scenario: Short Term No Project PM Peak hour conditions
Minor St. Volume: 122
Major St. Volume: 1613
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

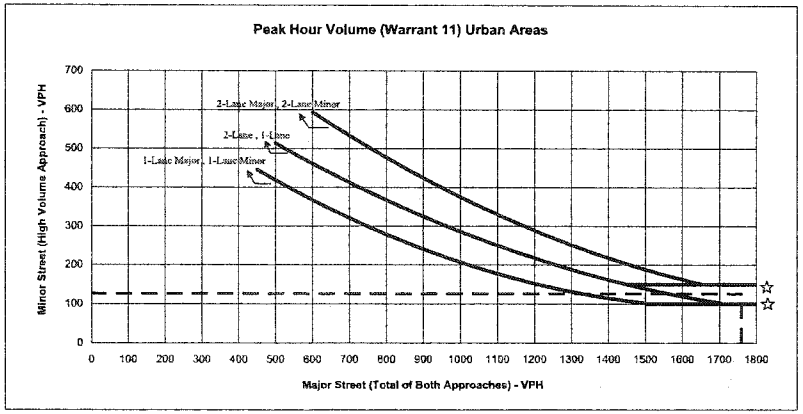


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ Sunset St.
Scenario: Short Term Plus Project AM Peak hour conditions
Minor St. Volume: 189
Major St. Volume: 1664
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

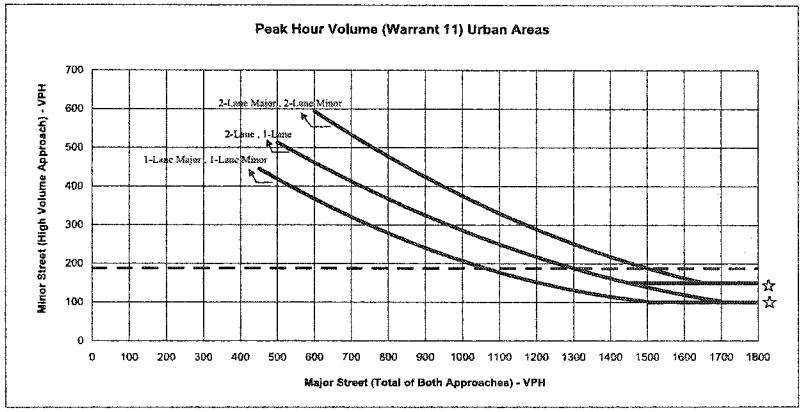


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ Sunset St.
Scenario: Short Term Plus Project PM Peak hour conditions
Minor St. Volume: 126
Major St. Volume: 1759
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

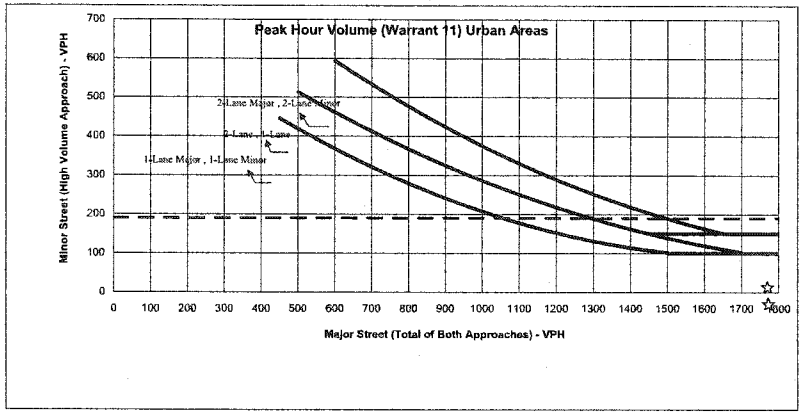


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ Sunset St.
Scenario: 2030 No Project AM Peak hour conditions
Minor St. Volume: 188
Major St. Volume: 2126
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

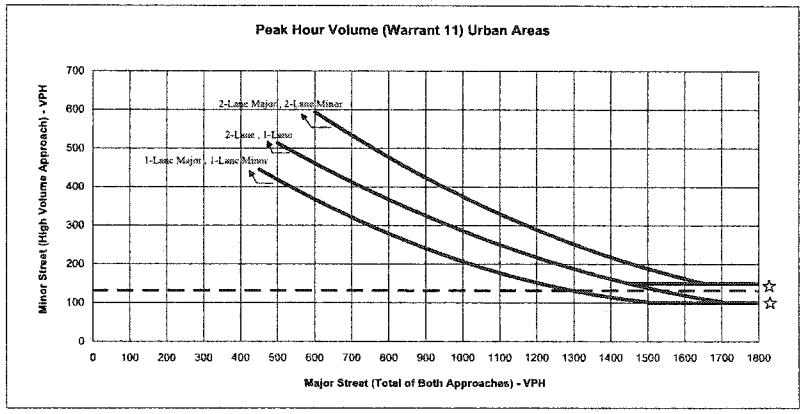


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ Sunset St.
Scenario: 2030 Plus Project AM Peak hour conditions
Minor St. Volume: 190
Major St. Volume: 2299
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

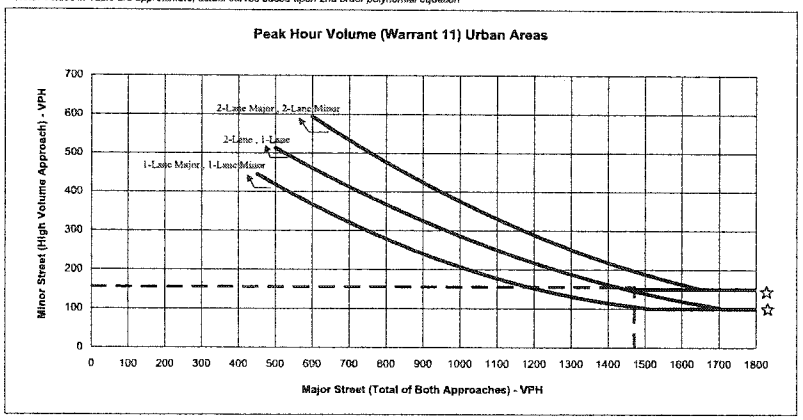


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ Sunset St.
Scenario: 2030 Plus Project PM Peak hour conditions
Minor St. Volume: 132
Major St. Volume: 2237
Warrant Met?: at threshold

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

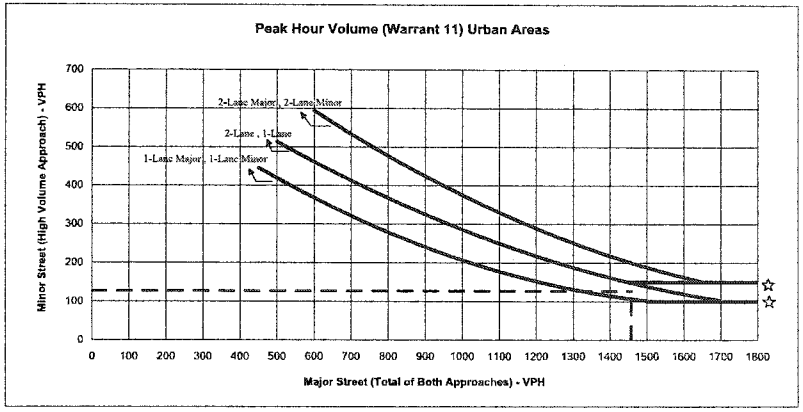


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ Overhill Dr.
Scenario: 2030 No Project AM Peak hour conditions
Minor St. Volume: 156
Major St. Volume: 1471
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

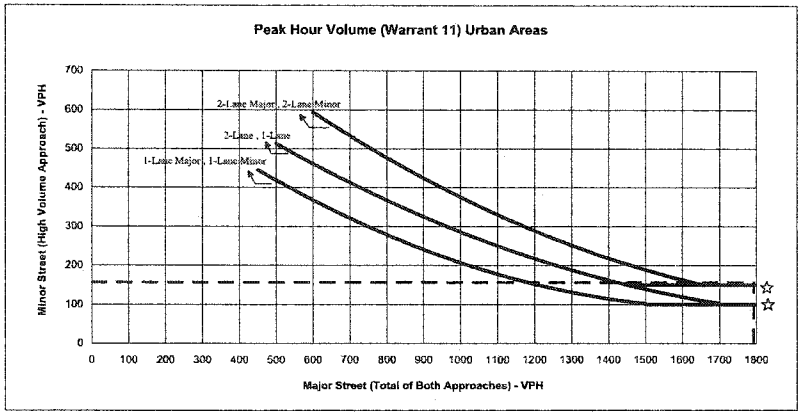


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ Overhill Dr.
Scenario: 2030 No Project PM Peak hour conditions
Minor St. Volume: 127
Major St. Volume: 1457
Warrant Met?: at threshold

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

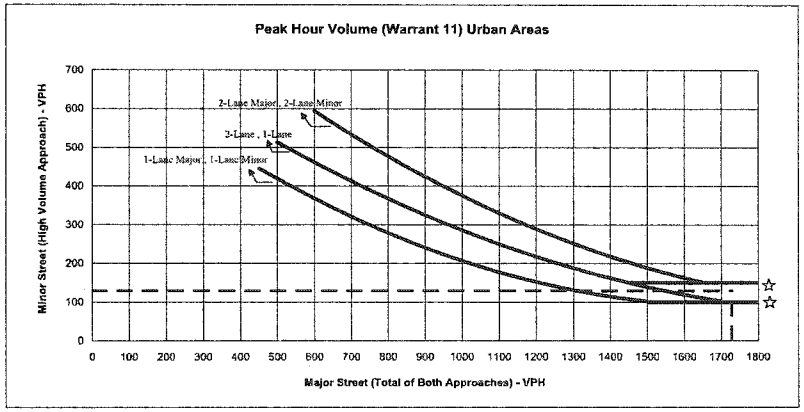


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ Overhill Dr.
Scenario: 2030 Plus Project AM Peak hour conditions
Minor St. Volume: 157
Major St. Volume: 1792
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

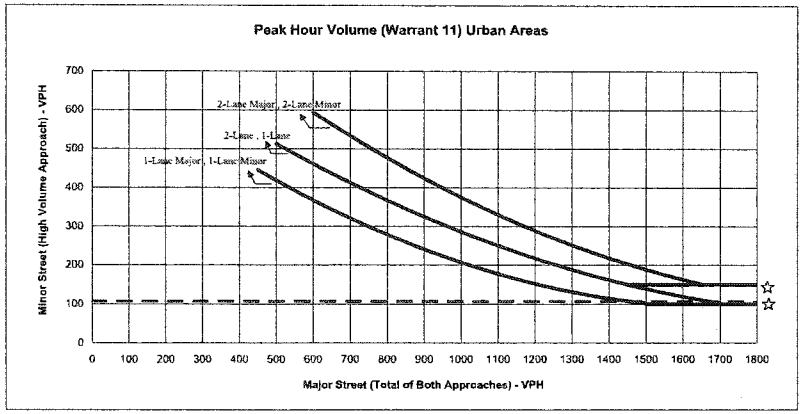


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ Overhill Dr.
Scenario: 2030 Plus Project PM Peak hour conditions
Minor St. Volume: 130
Major St. Volume: 1728
Warrant Met?: yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

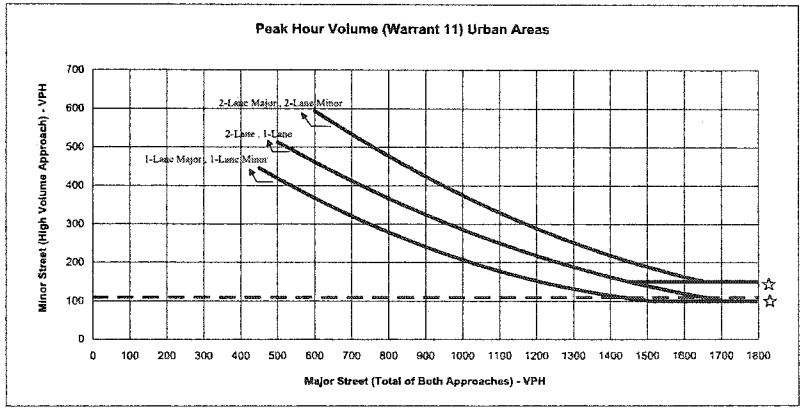


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ West St.
Scenario: 2030 No Project PM Peak hour conditions
Minor St. Volume: 107
Major St. Volume: 2151
Warrant Met?: at threshold

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

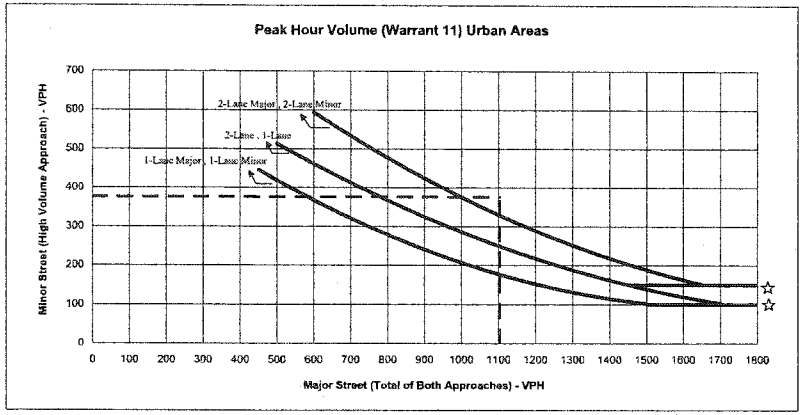


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ West St.
Scenario: 2030 Plus Project PM Peak hour conditions
Minor St. Volume: 110
Major St. Volume: 2352
Warrant Met?: at threshold

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

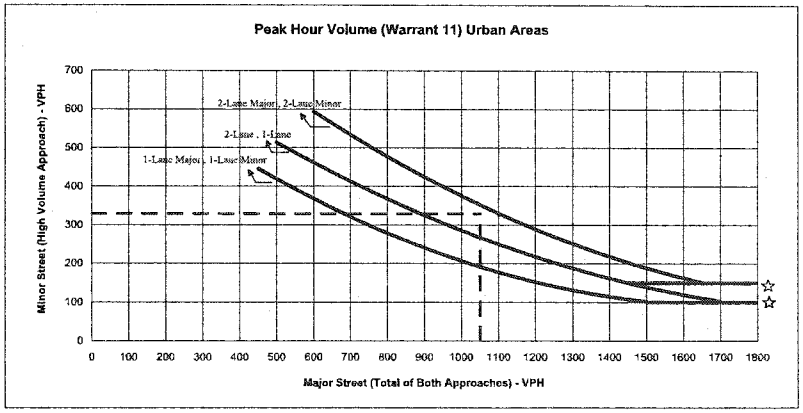


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ West St.
Scenario: Existing AM Peak hour conditions
Minor St. Volume: 376
Major St. Volume: 1102
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

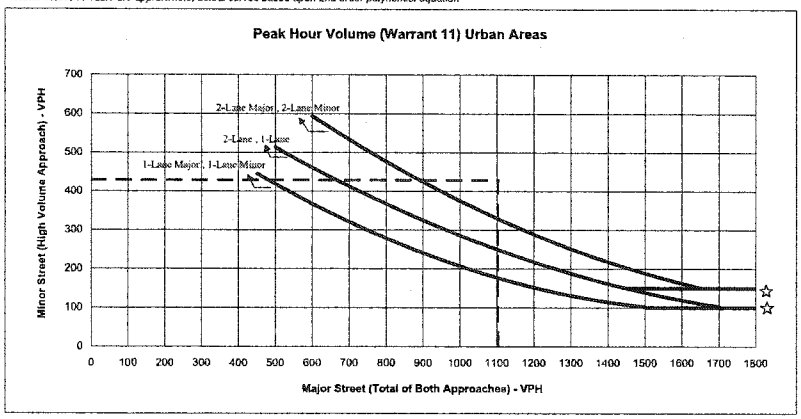


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way (SR299)/ West St.
Scenario: Existing PM Peak hour conditions
Minor St. Volume: 329
Major St. Volume: 1051
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

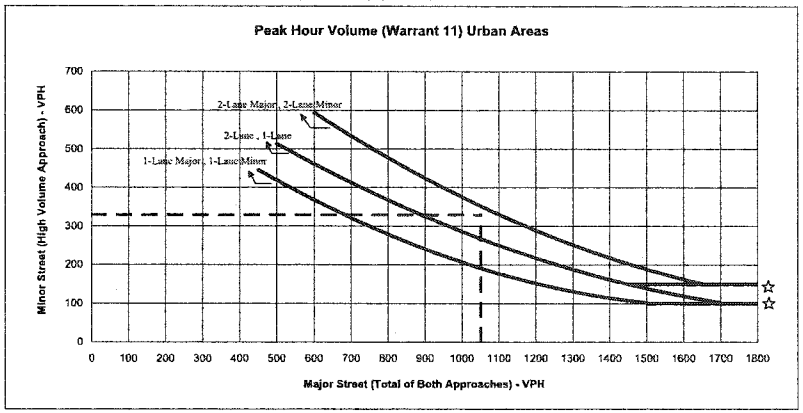


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	Eureka Way (SR299)/ West St.
Scenario:	Existing AM Peak hour conditions
Minor St. Volume:	429
Major St. Volume:	1102
Warrant Met?:	Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

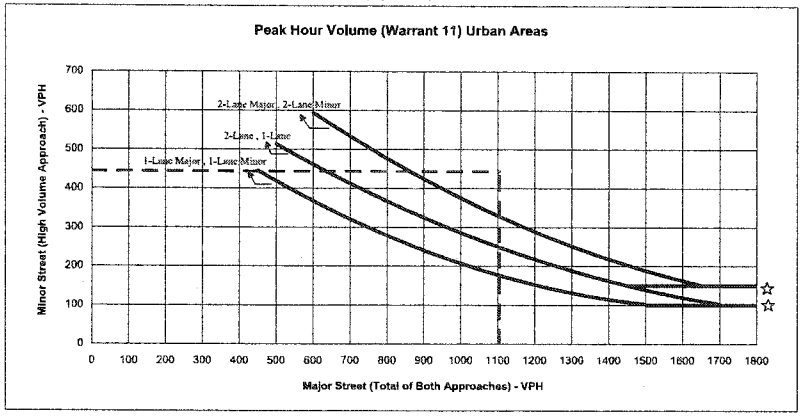


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	Eureka Way (SR299)/ West St.
Scenario:	Existing PM Peak hour conditions
Minor St. Volume:	329
Major St. Volume:	1051
Warrant Met?:	Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

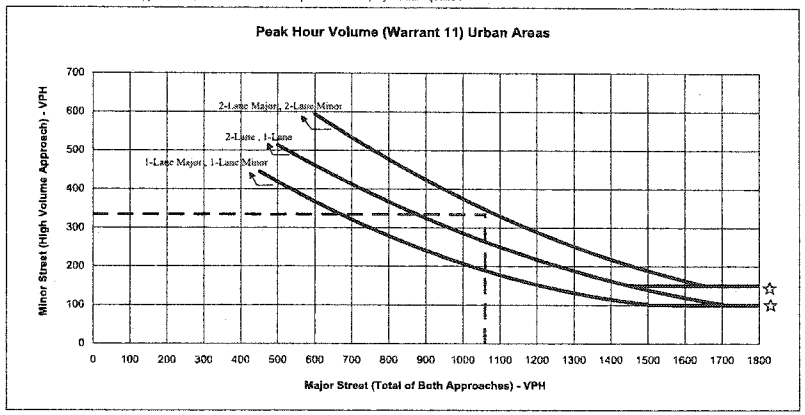


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	11st St./Court St.
Scenario:	Short Term Plus Project AM Peak hour conditions
Minor St. Volume:	444
Major St. Volume:	1104
Warrant Met?:	Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

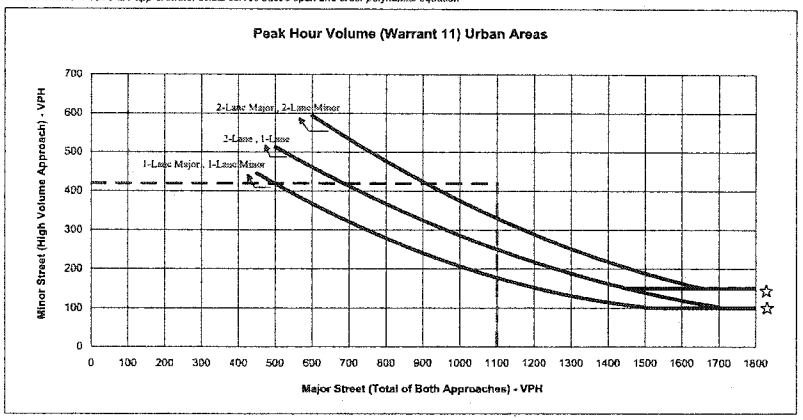


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	11st St./Court St.
Scenario:	Short Term Plus Project PM Peak hour conditions
Minor St. Volume:	335
Major St. Volume:	1060
Warrant Met?:	Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

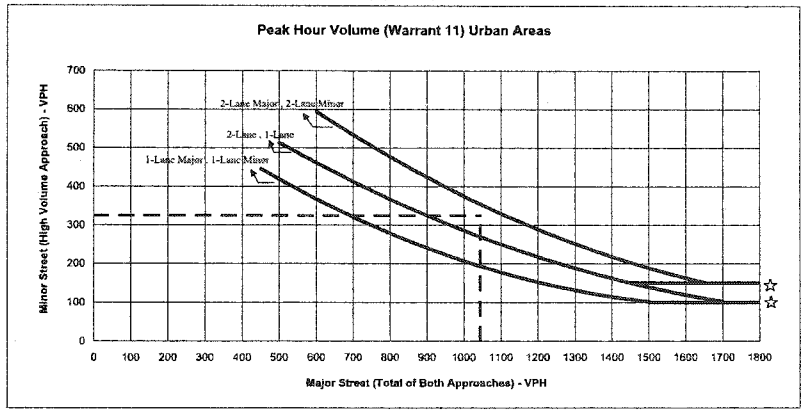


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: 11st St./Court St.
Scenario: 2030 No Project AM Peak hour conditions
Minor St. Volume: 420
Major St. Volume: 1100
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

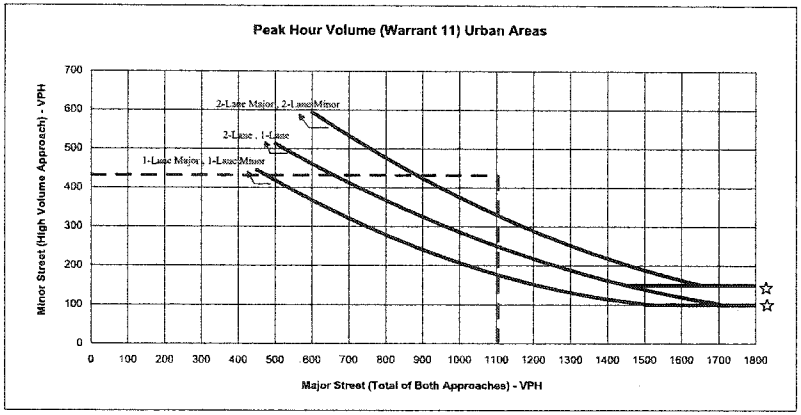


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: 11st St./Court St.
Scenario: 2030 No Project PM Peak hour conditions
Minor St. Volume: 325
Major St. Volume: 1044
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

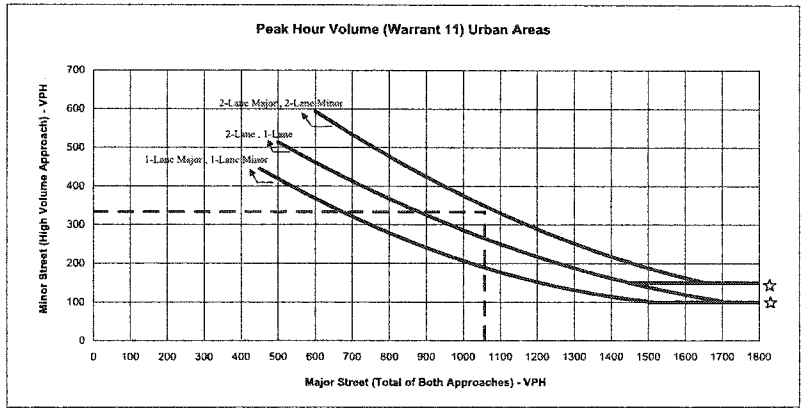


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	11st St./Court St.
Scenario:	2030 Plus Project AM Peak hour conditions
Minor St. Volume:	432
Major St. Volume:	1104
Warrant Met?:	Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

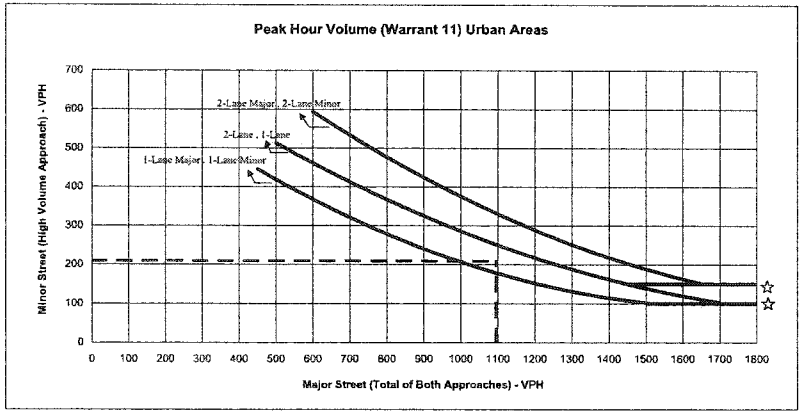


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	11st St./Court St.
Scenario:	2030 Plus Project PM Peak hour conditions
Minor St. Volume:	333
Major St. Volume:	1057
Warrant Met?:	Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

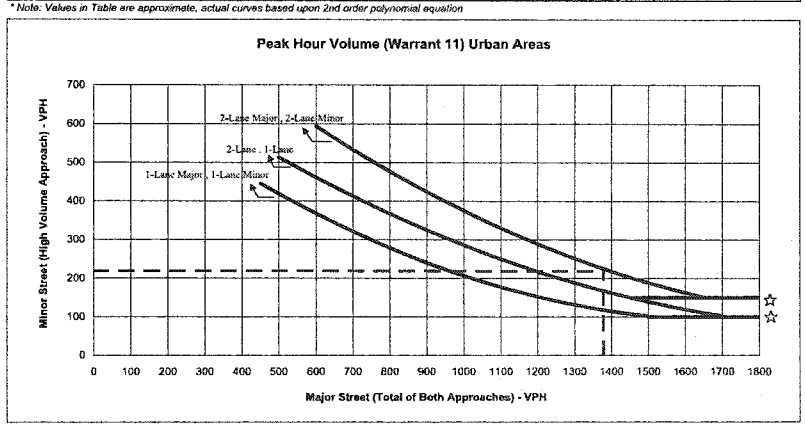


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Buenaventura Blvd./ Lakeside Dr.
Scenario: Short Term Plus Project AM Peak hour conditions
Minor St. Volume: 209
Major St. Volume: 1095
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

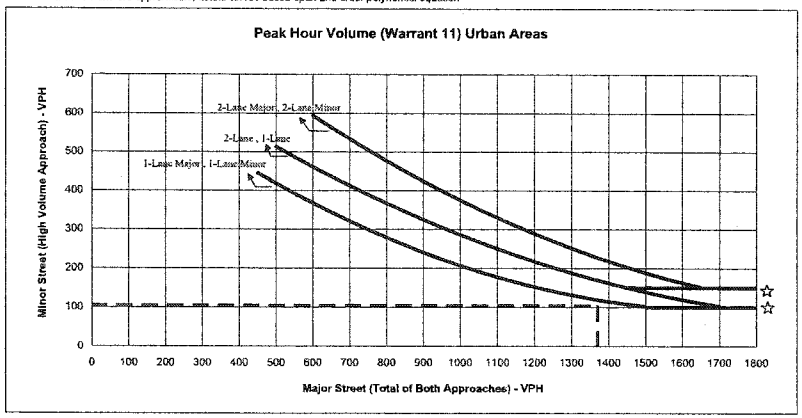


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Buenaventura Blvd./ Lakeside Dr.
Scenario: 2030 No Project AM Peak hour conditions
Minor St. Volume: 219
Major St. Volume: 1378
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

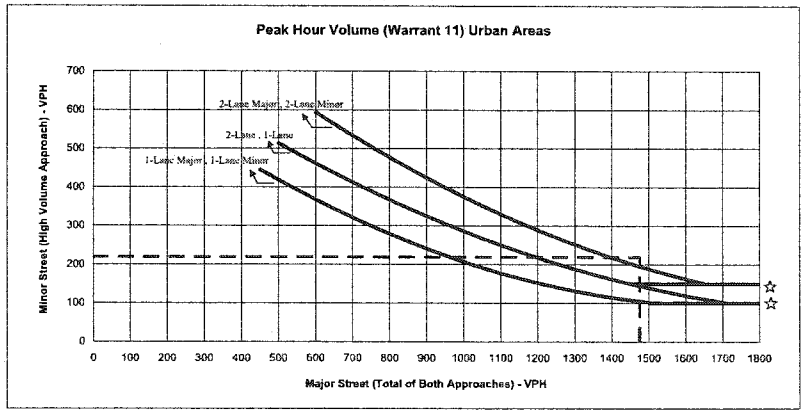


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	Buenaventura Blvd./ Lakeside Dr.
Scenario:	2030 No Project PM Peak hour conditions
Minor St. Volume:	105
Major St. Volume:	1370
Warrant Met?:	at threshold

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

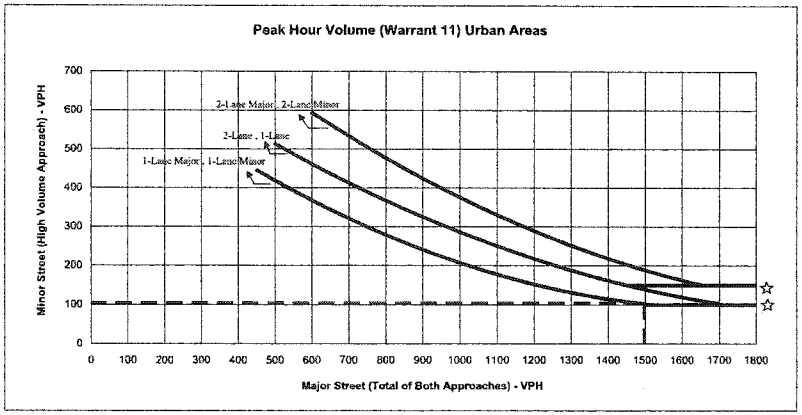


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection:	Buenaventura Blvd./ Lakeside Dr.
Scenario:	2030 Plus Project AM Peak hour conditions
Minor St. Volume:	219
Major St. Volume:	1475
Warrant Met?:	Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*

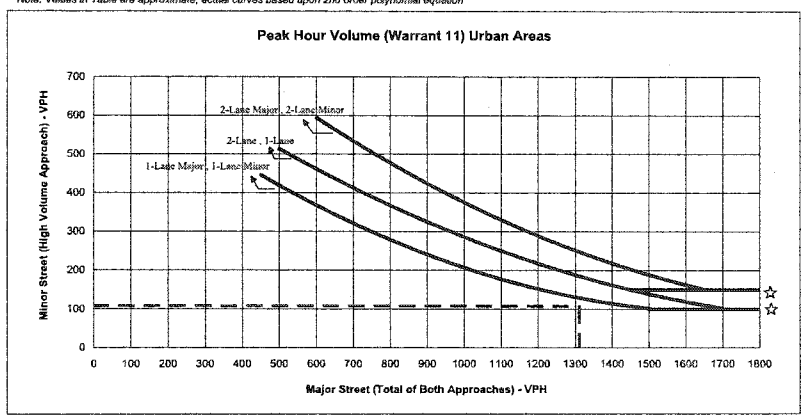


☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Buenaventura Blvd./ Lakeside Dr.
Scenario: 2030 Plus Project PM Peak hour conditions
Minor St. Volume: 105
Major St. Volume: 1497
Warrant Met?: Yes

Both 1 Lane Approaches		2 or more Lane and One Lane Approaches		Both 2 or more Lane Approaches	
Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach	Major Street Total of Both Approaches	Minor Street High Volume Approach
500	420	500	505	500	N/A
600	360	600	460	600	590
700	325	700	420	700	540
800	285	800	360	800	475
900	245	900	325	900	425
1000	200	1000	285	1000	370
1100	175	1100	250	1100	340
1200	150	1200	220	1200	285
1300	130	1300	190	1300	250
1400	120	1400	155	1400	220
1500	100	1500	145	1500	180
1600	100	1600	120	1600	170
1700	100	1700	100	1650	150
1800	100	1800	100	1800	150

** Note: Values in Table are approximate, actual curves based upon 2nd order polynomial equation*



☆ NOTE:
150 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR MINOR STREET APPROACH WITH TWO OR MORE LANES AND 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

Intersection: Eureka Way/Project Dwy
Scenario: 2030 Plus Project AM Peak hour conditions
Minor St. Volume: 108
Major St. Volume: 1311
Warrant Met?: at threshold

Appendix 15.4
Noise Data

Parenthetical FHWA Roadway Construction Noise Model (RCNM) Assumptions FHWA-HEP-05-054 DOT-VNTSC-FHWA-05-01 For: Salt Creek – Phase 1 Date: September 2008

Demolition Equipment:

Quantity	Type
2	Tractor/Loaders/Backhoe
1	Concrete/Industrial Saws
1	Rubber Tired Dozer

Mass Grading Equipment:

Quantity	Type
1	Grader
1	Rubber Tired Dozer
1	Tractor/Loaders/Backhoe
1	Water Trucks

Fine Grading Equipment:

Quantity	Type
1	Tractor/Loaders/Backhoe
1	Grader
1	Rubber Tired Dozer
1	Water Trucks

Paving Equipment:

Quantity	Type
4	Cement and Mortar Mixers
1	Paving Equipment
1	Paver
1	Roller
1	Tractor/Loader/Backhoe

Building Equipment:

Quantity	Type
3	Welders
1	Crane
2	Forklift
1	Generator Set
1	Tractor/Loader/Backhoe

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 9/29/2008
Case Descripti Salt Creek Demo1

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		5000	0
Backhoe	No	40		77.6	5000	0
Concrete Saw	No	20		89.6	5000	0
Dozer	No	40		81.7	5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	37.6	33.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	49.6	42.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	41.7	37.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	49.6	45.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		1900	0
Backhoe	No	40		77.6	1900	0
Concrete Saw	No	20		89.6	1900	0
Dozer	No	40		81.7	1900	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	52.4	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	46	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	58	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	50.1	46.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	58	54		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		350	0
Backhoe	No	40		77.6	350	0
Concrete Saw	No	20		89.6	350	0
Dozer	No	40		81.7	350	0

	Results													
	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	67.1	63.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	60.7	56.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	72.7	65.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	64.8	60.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	72.7	68.7	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Tractor	No	40	84		6600	0
Backhoe	No	40		77.6	6600	0
Concrete Saw	No	20		89.6	6600	0
Dozer	No	40		81.7	6600	0

	Results													
	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	41.6	37.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	35.1	31.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	47.2	40.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	39.3	35.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	47.2	43.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 9/29/2008
Case Descriptio: Salt Creek Grading1

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		5000	0
Grader	No	40	85		5000	0
Water Truck	No	40		75	5000	0
Dozer	No	40		81.7	5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	45	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	35	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	41.7	37.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	45	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		1900	0
Grader	No	40	85		1900	0
Water Truck	No	40		75	1900	0
Dozer	No	40		81.7	1900	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	52.4	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	53.4	49.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	43.4	39.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	50.1	46.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	53.4	53.2		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		350	0
Grader	No	40	85		350	0
Water Truck	No	40		75	350	0
Dozer	No	40		81.7	350	0

		Results													
		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		67.1	63.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader		68.1	64.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck		58.1	54.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		64.8	60.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	68.1	67.8	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		6600	0
Grader	No	40	85		6600	0
Water Truck	No	40		75	6600	0
Dozer	No	40		81.7	6600	0

		Results													
		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		41.6	37.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader		42.6	38.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck		32.6	28.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		39.3	35.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	42.6	42.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 9/29/2008
Case Descriptio: Salt Creek Paving1

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	5000	0
Drum Mixer	No	50		80	5000	0
Drum Mixer	No	50		80	5000	0
Concrete Pump Truck	No	20		81.4	5000	0
Paver	No	50		77.2	5000	0
Paver	No	50		77.2	5000	0
Roller	No	20		80	5000	0
Tractor	No	40	84		5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	38.8	34.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	41.4	34.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	37.2	34.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	37.2	34.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	40	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44	45.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	1900	0
Drum Mixer	No	50		80	1900	0
Drum Mixer	No	50		80	1900	0
Concrete Pump Truck	No	20		81.4	1900	0
Paver	No	50		77.2	1900	0
Paver	No	50		77.2	1900	0
Roller	No	20		80	1900	0
Tractor	No	40	84		1900	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	47.2	43.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	48.4	45.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	48.4	45.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	49.8	42.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	45.6	42.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	45.6	42.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	48.4	41.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	52.4	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total	52.4	53.6	0	0	0	0	0	0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	350	0
Drum Mixer	No	50		80	350	0
Drum Mixer	No	50		80	350	0
Concrete Pump Truck	No	20		81.4	350	0
Paver	No	50		77.2	350	0
Paver	No	50		77.2	350	0
Roller	No	20		80	350	0
Tractor	No	40	84		350	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	61.9	57.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	63.1	60.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	63.1	60.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	64.5	57.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	60.3	57.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	60.3	57.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	63.1	56.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	67.1	63.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.1	68.3	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	6600	0
Drum Mixer	No	50		80	6600	0
Drum Mixer	No	50		80	6600	0
Concrete Pump Truck	No	20		81.4	6600	0
Paver	No	50		77.2	6600	0
Paver	No	50		77.2	6600	0
Roller	No	20		80	6600	0
Tractor	No	40	84		6600	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	36.4	32.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	37.6	34.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	37.6	34.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	39	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	34.8	31.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	34.8	31.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	37.6	30.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	41.6	37.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	41.6	42.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 9/29/2008
Case Descriptic Salt Creek Building1

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	5000	0
Welder / Torch	No	40		74	5000	0
Welder / Torch	No	40		74	5000	0
Crane	No	16		80.6	5000	0
Forklift	No	40		75	5000	0
Forklift	No	40		75	5000	0
Generator	No	50		80.6	5000	0
Tractor	No	40	84		5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	34	30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	34	30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	34	30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	40.6	32.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	35	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	35	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	40.6	37.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	1900	0
Welder / Torch	No	40		74	1900	0
Welder / Torch	No	40		74	1900	0
Crane	No	16		80.6	1900	0
Forklift	No	40		75	1900	0
Forklift	No	40		75	1900	0
Generator	No	50		80.6	1900	0
Tractor	No	40	84		1900	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	42.4	38.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	42.4	38.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	42.4	38.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	49	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	43.4	39.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	43.4	39.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	49	46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	52.4	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total	52.4	52.1	0	0	0	0	0	0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	350	0
Welder / Torch	No	40		74	350	0
Welder / Torch	No	40		74	350	0
Crane	No	16		80.6	350	0
Forklift	No	40		75	350	0
Forklift	No	40		75	350	0
Generator	No	50		80.6	350	0
Tractor	No	40	84		350	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	57.1	53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	57.1	53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	57.1	53.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	63.6	55.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	58.1	54.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	58.1	54.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	63.7	60.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	67.1	63.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67.1	66.8	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	6600	0
Welder / Torch	No	40		74	6600	0
Welder / Torch	No	40		74	6600	0
Crane	No	16		80.6	6600	0
Forklift	No	40		75	6600	0
Forklift	No	40		75	6600	0
Generator	No	50		80.6	6600	0
Tractor	No	40	84		6600	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	31.6	27.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	31.6	27.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	31.6	27.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	38.1	30.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	32.6	28.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	32.6	28.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	38.2	35.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	41.6	37.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	41.6	41.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Parenthetical FHWA Roadway Construction Noise Model (RCNM) Assumptions FHWA-HEP-05-054 DOT-VNTSC-FHWA-05-01 For: Salt Creek – Phase 2 Date: September 2008

Demolition Equipment:

Quantity	Type
2	Tractor/Loaders/Backhoe
1	Concrete/Industrial Saws
1	Rubber Tired Dozer

Mass Grading Equipment:

Quantity	Type
1	Grader
1	Rubber Tired Dozer
1	Tractor/Loaders/Backhoe
1	Water Trucks

Fine Grading Equipment:

Quantity	Type
2	Tractor/Loaders/Backhoe
1	Grader
1	Rubber Tired Dozer
1	Water Trucks

Paving Equipment:

Quantity	Type
4	Cement and Mortar Mixers
2	Paving Equipment
1	Paver
1	Roller
1	Tractor/Loader/Backhoe

Building Equipment:

Quantity	Type
3	Welders
1	Crane
2	Forklift
1	Generator Set
1	Tractor/Loader/Backhoe

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 9/29/2008
Case Descri Salt Creek Demo2

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		5000	0
Backhoe	No	40		77.6	5000	0
Concrete Saw	No	20		89.6	5000	0
Dozer	No	40		81.7	5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	37.6	33.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	49.6	42.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	41.7	37.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	49.6	45.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		2300	0
Backhoe	No	40		77.6	2300	0
Concrete Saw	No	20		89.6	2300	0
Dozer	No	40		81.7	2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	44.3	40.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	56.3	49.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	48.4	44.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	56.3	52.4		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		600	0
Backhoe	No	40		77.6	600	0
Concrete Saw	No	20		89.6	600	0
Dozer	No	40		81.7	600	0

	Results													
	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	62.4	58.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	56	52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	68	61	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	60.1	56.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	68	64	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		6000	0
Backhoe	No	40		77.6	6000	0
Concrete Saw	No	20		89.6	6000	0
Dozer	No	40		81.7	6000	0

	Results													
	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	42.4	38.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	36	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	48	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	40.1	36.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	48	44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 9/29/2008
Case Descript Salt Creek Grading2

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		5000	0
Grader	No	40	85		5000	0
Water Truck	No	40		75	5000	0
Dozer	No	40		81.7	5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)								Noise Limit Exceedance (dBA)			
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	45	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	35	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	41.7	37.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	45	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		2300	0
Grader	No	40	85		2300	0
Water Truck	No	40		75	2300	0
Dozer	No	40		81.7	2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)								Noise Limit Exceedance (dBA)			
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	51.7	47.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	41.7	37.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	48.4	44.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	51.7	51.5		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		600	0
Grader	No	40	85		600	0
Water Truck	No	40		75	600	0
Dozer	No	40		81.7	600	0

		Results													
		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		62.4	58.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader		63.4	59.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck		53.4	49.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		60.1	56.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	63.4	63.2	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		6000	0
Grader	No	40	85		6000	0
Water Truck	No	40		75	6000	0
Dozer	No	40		81.7	6000	0

		Results													
		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		42.4	38.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader		43.4	39.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck		33.4	29.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		40.1	36.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	43.4	43.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date 9/29/2008
Case Desc Salt Creek Paving2

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	5000	0
Drum Mixer	No	50		80	5000	0
Drum Mixer	No	50		80	5000	0
Concrete Pump Truck	No	20		81.4	5000	0
Paver	No	50		77.2	5000	0
Roller	No	20		80	5000	0
Tractor	No	40	84		5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	38.8	34.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	41.4	34.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	37.2	34.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	40	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44	44.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	2300	0
Drum Mixer	No	50		80	2300	0
Drum Mixer	No	50		80	2300	0
Concrete Pump Truck	No	20		81.4	2300	0
Paver	No	50		77.2	2300	0
Roller	No	20		80	2300	0
Tractor	No	40	84		2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	45.5	41.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	46.7	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	46.7	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	48.1	41.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	44	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	46.7	39.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	50.7	51.6		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	600	0
Drum Mixer	No	50		80	600	0
Drum Mixer	No	50		80	600	0
Concrete Pump Truck	No	20		81.4	600	0
Paver	No	50		77.2	600	0
Roller	No	20		80	600	0
Tractor	No	40	84		600	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	57.2	53.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	58.4	55.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	58.4	55.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	59.8	52.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	55.6	52.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	58.4	51.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	62.4	58.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62.4	63.3		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	6000	0
Drum Mixer	No	50		80	6000	0
Drum Mixer	No	50		80	6000	0
Concrete Pump Truck	No	20		81.4	6000	0
Paver	No	50		77.2	6000	0
Roller	No	20		80	6000	0
Tractor	No	40	84		6000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	37.2	33.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	38.4	35.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	38.4	35.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	39.8	32.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	35.6	32.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	38.4	31.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	42.4	38.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	42.4	43.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 9/29/2008
Case Descripti Salt Creek Building2

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	5000	0
Welder / Torch	No	40		74	5000	0
Welder / Torch	No	40		74	5000	0
Crane	No	16		80.6	5000	0
Forklift	No	40		75	5000	0
Forklift	No	40		75	5000	0
Generator	No	50		80.6	5000	0
Tractor	No	40	84		5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	34	30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	34	30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	34	30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	40.6	32.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	35	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	35	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	40.6	37.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	2300	0
Welder / Torch	No	40		74	2300	0
Welder / Torch	No	40		74	2300	0
Crane	No	16		80.6	2300	0
Forklift	No	40		75	2300	0
Forklift	No	40		75	2300	0
Generator	No	50		80.6	2300	0
Tractor	No	40	84		2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	40.7	36.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	40.7	36.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	40.7	36.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	47.3	39.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	41.7	37.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	41.7	37.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	47.4	44.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total	50.7	50.4	0	0	0	0	0	0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	600	0
Welder / Torch	No	40		74	600	0
Welder / Torch	No	40		74	600	0
Crane	No	16		80.6	600	0
Forklift	No	40		75	600	0
Forklift	No	40		75	600	0
Generator	No	50		80.6	600	0
Tractor	No	40	84		600	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	52.4	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	52.4	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	52.4	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	59	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	53.4	49.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	53.4	49.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	59	56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	62.4	58.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62.4	62.1		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	6000	0
Welder / Torch	No	40		74	6000	0
Welder / Torch	No	40		74	6000	0
Crane	No	16		80.6	6000	0
Forklift	No	40		75	6000	0
Forklift	No	40		75	6000	0
Generator	No	50		80.6	6000	0
Tractor	No	40	84		6000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	32.4	28.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	32.4	28.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	32.4	28.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	39	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	33.4	29.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	33.4	29.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	39	36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	42.4	38.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	42.4	42.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Parenthetical FHWA Roadway Construction Noise Model (RCNM) Assumptions FHWA-HEP-05-054 DOT-VNTSC-FHWA-05-01 For: Salt Creek – Phase 3 Date: September 2008

Demolition Equipment:

Quantity	Type
2	Tractor/Loaders/Backhoe
1	Concrete/Industrial Saws
1	Rubber Tired Dozer

Mass Grading Equipment:

Quantity	Type
1	Grader
1	Rubber Tired Dozer
1	Tractor/Loaders/Backhoe
1	Water Trucks

Fine Grading Equipment:

Quantity	Type
1	Tractor/Loaders/Backhoe
1	Grader
1	Rubber Tired Dozer
1	Water Trucks

Paving Equipment:

Quantity	Type
4	Cement and Mortar Mixers
1	Paver
1	Roller
1	Tractor/Loader/Backhoe

Building Equipment:

Quantity	Type
1	Crane
2	Forklift
1	Tractor/Loader/Backhoe

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 9/29/2008
Case Descriptio Salt Creek Demo3

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		5000	0
Backhoe	No	40		77.6	5000	0
Concrete Saw	No	20		89.6	5000	0
Dozer	No	40		81.7	5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	37.6	33.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	49.6	42.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	41.7	37.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	49.6	45.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		2300	0
Backhoe	No	40		77.6	2300	0
Concrete Saw	No	20		89.6	2300	0
Dozer	No	40		81.7	2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	44.3	40.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	56.3	49.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	48.4	44.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	56.3	52.4		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Backhoe	No	40		77.6	50	0
Concrete Saw	No	20		89.6	50	0
Dozer	No	40		81.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.6	85.6		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		4500	0
Backhoe	No	40		77.6	4500	0
Concrete Saw	No	20		89.6	4500	0
Dozer	No	40		81.7	4500	0

Results

		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		44.9	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		38.5	34.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw		50.5	43.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		42.6	38.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	50.5	46.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 9/29/2008
Case Description Salt Creek Grading3

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		5000	0
Grader	No	40	85		5000	0
Water Truck	No	40		75	5000	0
Dozer	No	40		81.7	5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	45	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	35	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	41.7	37.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	45	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		2300	0
Grader	No	40	85		2300	0
Water Truck	No	40		75	2300	0
Dozer	No	40		81.7	2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	51.7	47.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	41.7	37.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	48.4	44.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	51.7	51.5		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Grader	No	40	85		50	0
Water Truck	No	40		75	50	0
Dozer	No	40		81.7	50	0

		Results													
		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader		85	81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck		75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	85	84.7	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Tractor	No	40	84		4500	0
Grader	No	40	85		4500	0
Water Truck	No	40		75	4500	0
Dozer	No	40		81.7	4500	0

		Results													
		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		44.9	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader		45.9	41.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck		35.9	31.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		42.6	38.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	45.9	45.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 9/29/2008
Case Descrip Salt Creek Paving3

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	5000	0
Drum Mixer	No	50		80	5000	0
Drum Mixer	No	50		80	5000	0
Concrete Pump Truck	No	20		81.4	5000	0
Paver	No	50		77.2	5000	0
Roller	No	20		80	5000	0
Tractor	No	40	84		5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	38.8	34.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	41.4	34.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	37.2	34.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	40	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44	44.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	2300	0
Drum Mixer	No	50		80	2300	0
Drum Mixer	No	50		80	2300	0
Concrete Pump Truck	No	20		81.4	2300	0
Paver	No	50		77.2	2300	0
Roller	No	20		80	2300	0
Tractor	No	40	84		2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	45.5	41.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	46.7	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	46.7	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	48.1	41.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	44	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	46.7	39.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	50.7	51.6	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	50	0
Drum Mixer	No	50		80	50	0
Drum Mixer	No	50		80	50	0
Concrete Pump Truck	No	20		81.4	50	0
Paver	No	50		77.2	50	0
Roller	No	20		80	50	0
Tractor	No	40	84		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	78.8	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	84.8		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	4500	0
Drum Mixer	No	50		80	4500	0
Drum Mixer	No	50		80	4500	0
Concrete Pump Truck	No	20		81.4	4500	0
Paver	No	50		77.2	4500	0
Roller	No	20		80	4500	0
Tractor	No	40	84		4500	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	39.7	35.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40.9	37.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40.9	37.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	42.3	35.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	38.1	35.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	40.9	33.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44.9	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44.9	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date: 9/29/2008
Case Descrip Salt Creek Building3

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	5000	0
Forklift	No	40		75	5000	0
Forklift	No	40		75	5000	0
Tractor	No	40	84		5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	40.6	32.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	35	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	35	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44	41.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	2300	0
Forklift	No	40		75	2300	0
Forklift	No	40		75	2300	0
Tractor	No	40	84		2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	47.3	39.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	41.7	37.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	41.7	37.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	50.7	48.3		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	50	0
Forklift	No	40		75	50	0
Forklift	No	40		75	50	0
Tractor	No	40	84		50	0

		Results													
		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		80.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift		75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift		75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	84	81.6	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

			Equipment			
	Impact		Spec Lmax	Actual Lmax	Receptor Distance	Estimated Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Crane	No	16		80.6	4500	0
Forklift	No	40		75	4500	0
Forklift	No	40		75	4500	0
Tractor	No	40	84		4500	0

		Results													
		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane		41.5	33.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift		35.9	31.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift		35.9	31.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		44.9	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	44.9	42.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Parenthetical FHWA Roadway Construction Noise Model (RCNM) Assumptions FHWA-HEP-05-054 DOT-VNTSC-FHWA-05-01 For: Salt Creek – Phase 4 Date: September 2008

Demolition Equipment:

Quantity	Type
2	Tractor/Loaders/Backhoe
1	Concrete/Industrial Saws
1	Rubber Tired Dozer

Mass Grading Equipment:

Quantity	Type
1	Grader
1	Rubber Tired Dozer
1	Tractor/Loaders/Backhoe
1	Water Trucks

Fine Grading Equipment:

Quantity	Type
1	Tractor/Loaders/Backhoe
1	Grader
1	Rubber Tired Dozer
1	Water Trucks

Paving Equipment:

Quantity	Type
4	Cement and Mortar Mixers
1	Paving Equipment
1	Paver
1	Roller
1	Tractor/Loader/Backhoe

Building Equipment:

Quantity	Type
3	Welders
1	Crane
2	Forklift
1	Generator Set
1	Tractor/Loader/Backhoe

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Demo5

---- Receptor #1 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		2200	0
Backhoe	No	40		77.6	2200	0
Concrete Saw	No	20		89.6	2200	0
Dozer	No	40		81.7	2200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	51.1	47.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	44.7	40.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	56.7	49.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	48.8	44.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	56.7	52.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		75	0
Backhoe	No	40		77.6	75	0
Concrete Saw	No	20		89.6	75	0
Dozer	No	40		81.7	75	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	80.5	76.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	74	70.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	86.1	79.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	78.1	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	86.1	82.1		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		1900	0
Backhoe	No	40		77.6	1900	0
Concrete Saw	No	20		89.6	1900	0
Dozer	No	40		81.7	1900	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	52.4	48.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	46	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	58	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	50.1	46.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	58	54		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		3300	0
Backhoe	No	40		77.6	3300	0
Concrete Saw	No	20		89.6	3300	0
Dozer	No	40		81.7	3300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	47.6	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	41.2	37.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	53.2	46.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	45.3	41.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	53.2	49.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date 9/29/2008
Case Desc Salt Creek Grading4

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		2200	0
Grader	No	40	85		2200	0
Water Truck	No	40		75	2200	0
Dozer	No	40		81.7	2200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	51.1	47.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	52.1	48.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	42.1	38.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	48.8	44.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	52.1	51.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		75	0
Grader	No	40	85		75	0
Water Truck	No	40		75	75	0
Dozer	No	40		81.7	75	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	80.5	76.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	81.5	77.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	71.5	67.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	78.1	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	81.5	81.2		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Grader	No	40	85		50	0
Water Truck	No	40		75	50	0
Dozer	No	40		81.7	50	0

	Calculated (dBA)		Results											
			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	85	81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	85	84.7		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Tractor	No	40	84		4000	0
Grader	No	40	85		4000	0
Water Truck	No	40		75	4000	0
Dozer	No	40		81.7	4000	0

	Calculated (dBA)		Results											
			Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	45.9	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	46.9	43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	36.9	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	43.6	39.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	46.9	46.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date 9/29/2008
Case Desc Salt Creek Paving4

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	2200	0
Drum Mixer	No	50		80	2200	0
Drum Mixer	No	50		80	2200	0
Concrete Pump Truck	No	20		81.4	2200	0
Paver	No	50		77.2	2200	0
Roller	No	20		80	2200	0
Tractor	No	40	84		2200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	45.9	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	47.1	44.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	47.1	44.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	48.5	41.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	44.4	41.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	47.1	40.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	51.1	47.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	51.1	52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	2300	0
Drum Mixer	No	50		80	2300	0
Drum Mixer	No	50		80	2300	0
Concrete Pump Truck	No	20		81.4	2300	0
Paver	No	50		77.2	2300	0
Roller	No	20		80	2300	0
Tractor	No	40	84		2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	45.5	41.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	46.7	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	46.7	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	48.1	41.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	44	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	46.7	39.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	50.7	51.6		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	50	0
Drum Mixer	No	50		80	50	0
Drum Mixer	No	50		80	50	0
Concrete Pump Truck	No	20		81.4	50	0
Paver	No	50		77.2	50	0
Roller	No	20		80	50	0
Tractor	No	40	84		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	78.8	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	84.8		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	4000	0
Drum Mixer	No	50		80	4000	0
Drum Mixer	No	50		80	4000	0
Concrete Pump Truck	No	20		81.4	4000	0
Paver	No	50		77.2	4000	0
Roller	No	20		80	4000	0
Tractor	No	40	84		4000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	40.7	36.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	41.9	38.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	41.9	38.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	43.3	36.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	39.2	36.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	41.9	34.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	45.9	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	45.9	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Building4

---- Receptor #1 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	2200	0
Welder / Torch	No	40		74	2200	0
Welder / Torch	No	40		74	2200	0
Crane	No	16		80.6	2200	0
Forklift	No	40		75	2200	0
Forklift	No	40		75	2200	0
Generator	No	50		80.6	2200	0
Tractor	No	40	84		2200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	41.1	37.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	41.1	37.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	41.1	37.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	47.7	39.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	42.1	38.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	42.1	38.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	47.8	44.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	51.1	47.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	51.1	50.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	2300	0
Welder / Torch	No	40		74	2300	0
Welder / Torch	No	40		74	2300	0
Crane	No	16		80.6	2300	0
Forklift	No	40		75	2300	0
Forklift	No	40		75	2300	0
Generator	No	50		80.6	2300	0
Tractor	No	40	84		2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	40.7	36.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	40.7	36.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	40.7	36.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	47.3	39.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	41.7	37.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	41.7	37.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	47.4	44.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	50.7	50.4	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	50	0
Crane	No	16		80.6	50	0
Forklift	No	40		75	50	0
Forklift	No	40		75	50	0
Generator	No	50		80.6	50	0
Tractor	No	40	84		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	83.7		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	4000	0
Welder / Torch	No	40		74	4000	0
Welder / Torch	No	40		74	4000	0
Crane	No	16		80.6	4000	0
Forklift	No	40		75	4000	0
Forklift	No	40		75	4000	0
Generator	No	50		80.6	4000	0
Tractor	No	40	84		4000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	35.9	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	35.9	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	35.9	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	42.5	34.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	36.9	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	36.9	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	42.6	39.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	45.9	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	45.9	45.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Parenthetical FHWA Roadway Construction Noise Model (RCNM) Assumptions FHWA-HEP-05-054 DOT-VNTSC-FHWA-05-01 For: Salt Creek – Phase 5 Date: September 2008

Demolition Equipment:

Quantity	Type
2	Tractor/Loaders/Backhoe
1	Concrete/Industrial Saws
1	Rubber Tired Dozer

Mass Grading Equipment:

Quantity	Type
1	Grader
1	Rubber Tired Dozer
1	Tractor/Loaders/Backhoe
1	Water Trucks

Fine Grading Equipmen:

Quantity	Type
1	Tractor/Loaders/Backhoe
1	Grader
1	Rubber Tired Dozer
1	Water Trucks

Paving Equipment:

Quantity	Type
4	Cement and Mortar Mixers
1	Paving Equipment
1	Paver
1	Roller
1	Tractor/Loader/Backhoe

Building Equipment:

Quantity	Type
3	Welders
1	Crane
2	Forklift
1	Generator Set
1	Tractor/Loader/Backhoe

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Demo5

---- Receptor #1 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		5000	0
Backhoe	No	40		77.6	5000	0
Concrete Saw	No	20		89.6	5000	0
Dozer	No	40		81.7	5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	37.6	33.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	49.6	42.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	41.7	37.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	49.6	45.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		2300	0
Backhoe	No	40		77.6	2300	0
Concrete Saw	No	20		89.6	2300	0
Dozer	No	40		81.7	2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	44.3	40.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	56.3	49.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	48.4	44.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	56.3	52.4		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Backhoe	No	40		77.6	50	0
Concrete Saw	No	20		89.6	50	0
Dozer	No	40		81.7	50	0

	Calculated (dBA)		Results		Noise Limits (dBA)						Noise Limit Exceedance (dBA)			
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.6	85.6	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		4000	0
Backhoe	No	40		77.6	4000	0
Concrete Saw	No	20		89.6	4000	0
Dozer	No	40		81.7	4000	0

	Calculated (dBA)		Results		Noise Limits (dBA)						Noise Limit Exceedance (dBA)			
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	45.9	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	39.5	35.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	51.5	44.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	43.6	39.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	51.5	47.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date 9/29/2008
Case Desc Salt Creek Grading5

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		5000	0
Grader	No	40	85		5000	0
Water Truck	No	40		75	5000	0
Dozer	No	40		81.7	5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	45	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	35	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	41.7	37.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	45	44.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		2300	0
Grader	No	40	85		2300	0
Water Truck	No	40		75	2300	0
Dozer	No	40		81.7	2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	51.7	47.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	41.7	37.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	48.4	44.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	51.7	51.5		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Grader	No	40	85		50	0
Water Truck	No	40		75	50	0

Dozer	No	40	81.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	85	81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	85	84.7	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		4000	0
Grader	No	40	85		4000	0
Water Truck	No	40		75	4000	0
Dozer	No	40		81.7	4000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	45.9	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	46.9	43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	36.9	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	43.6	39.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	46.9	46.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date 9/29/2008
Case Desc Salt Creek Paving5

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	5000	0
Drum Mixer	No	50		80	5000	0
Drum Mixer	No	50		80	5000	0
Concrete Pump Truck	No	20		81.4	5000	0
Paver	No	50		77.2	5000	0
Roller	No	20		80	5000	0
Tractor	No	40	84		5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	38.8	34.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	41.4	34.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	37.2	34.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	40	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44	44.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	2300	0
Drum Mixer	No	50		80	2300	0
Drum Mixer	No	50		80	2300	0
Concrete Pump Truck	No	20		81.4	2300	0
Paver	No	50		77.2	2300	0
Roller	No	20		80	2300	0
Tractor	No	40	84		2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	45.5	41.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	46.7	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	46.7	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	48.1	41.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	44	41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	46.7	39.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	50.7	51.6		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	50	0
Drum Mixer	No	50		80	50	0
Drum Mixer	No	50		80	50	0
Concrete Pump Truck	No	20		81.4	50	0
Paver	No	50		77.2	50	0
Roller	No	20		80	50	0
Tractor	No	40	84		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	78.8	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	84.8		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	4000	0
Drum Mixer	No	50		80	4000	0
Drum Mixer	No	50		80	4000	0
Concrete Pump Truck	No	20		81.4	4000	0
Paver	No	50		77.2	4000	0
Roller	No	20		80	4000	0
Tractor	No	40	84		4000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	40.7	36.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	41.9	38.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	41.9	38.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	43.3	36.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	39.2	36.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	41.9	34.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	45.9	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	45.9	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Building5

---- Receptor #1 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	5000	0
Welder / Torch	No	40		74	5000	0
Welder / Torch	No	40		74	5000	0
Crane	No	16		80.6	5000	0
Forklift	No	40		75	5000	0
Forklift	No	40		75	5000	0
Generator	No	50		80.6	5000	0
Tractor	No	40	84		5000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	34	30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	34	30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	34	30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	40.6	32.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	35	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	35	31	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	40.6	37.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44	43.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	2300	0
Welder / Torch	No	40		74	2300	0
Welder / Torch	No	40		74	2300	0
Crane	No	16		80.6	2300	0
Forklift	No	40		75	2300	0
Forklift	No	40		75	2300	0
Generator	No	50		80.6	2300	0
Tractor	No	40	84		2300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	40.7	36.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	40.7	36.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	40.7	36.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	47.3	39.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	41.7	37.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	41.7	37.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	47.4	44.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	50.7	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total	50.7	50.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	50	0
Crane	No	16		80.6	50	0
Forklift	No	40		75	50	0
Forklift	No	40		75	50	0
Generator	No	50		80.6	50	0
Tractor	No	40	84		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	83.7		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	4000	0
Welder / Torch	No	40		74	4000	0
Welder / Torch	No	40		74	4000	0
Crane	No	16		80.6	4000	0
Forklift	No	40		75	4000	0
Forklift	No	40		75	4000	0
Generator	No	50		80.6	4000	0
Tractor	No	40	84		4000	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	35.9	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	35.9	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	35.9	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	42.5	34.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	36.9	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	36.9	33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	42.6	39.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	45.9	42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	45.9	45.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Parenthetical FHWA Roadway Construction Noise Model (RCNM) Assumptions FHWA-HEP-05-054 DOT-VNTSC-FHWA-05-01 For: Salt Creek – Phase 6 Date: September 2008

Demolition Equipment:

Quantity	Type
2	Tractor/Loaders/Backhoe
1	Concrete/Industrial Saws
1	Rubber Tired Dozer

Mass Grading Equipment:

Quantity	Type
1	Grader
1	Rubber Tired Dozer
1	Tractor/Loaders/Backhoe
1	Water Trucks

Fine Grading Equipment:

Quantity	Type
1	Tractor/Loaders/Backhoe
1	Grader
1	Rubber Tired Dozer
1	Water Trucks

Paving Equipment:

Quantity	Type
4	Cement and Mortar Mixers
1	Paving Equipment
1	Paver
1	Roller
1	Tractor/Loader/Backhoe

Building Equipment:

Quantity	Type
3	Welders
1	Crane
2	Forklift
1	Generator Set
1	Tractor/Loader/Backhoe

Roadway Construction Noise Model (RCNM),Version 1.0

Report date 9/29/2008
Case Desc Salt Creek Demo6

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		100	0
Backhoe	No	40		77.6	100	0
Concrete Saw	No	20		89.6	100	0
Dozer	No	40		81.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	78	74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	83.6	79.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		1200	0
Backhoe	No	40		77.6	1200	0
Concrete Saw	No	20		89.6	1200	0
Dozer	No	40		81.7	1200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	56.4	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	50	46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	62	55	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	54.1	50.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	62	58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		400	0
Backhoe	No	40		77.6	400	0
Concrete Saw	No	20		89.6	400	0
Dozer	No	40		81.7	400	0

	Results													
	Calculated (dBA)		Noise Limits (dBA)								Noise Limit Exceedance (dBA)			
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	65.9	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	71.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.5	67.5	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Tractor	No	40	84		300	0
Backhoe	No	40		77.6	300	0
Concrete Saw	No	20		89.6	300	0
Dozer	No	40		81.7	300	0

	Results													
	Calculated (dBA)		Noise Limits (dBA)								Noise Limit Exceedance (dBA)			
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	68.4	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	62	58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	74	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	66.1	62.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Grading6

---- Receptor #1 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		100	0
Grader	No	40	85		100	0
Water Truck	No	40		75	100	0
Dozer	No	40		81.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	78	74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	79	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	69	65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	79	78.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		1200	0
Grader	No	40	85		1200	0
Water Truck	No	40		75	1200	0
Dozer	No	40		81.7	1200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	56.4	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	57.4	53.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	47.4	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	54.1	50.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	57.4	57.1		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		400	0
Grader	No	40	85		400	0
Water Truck	No	40		75	400	0
Dozer	No	40		81.7	400	0

	Results													
	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	65.9	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	66.9	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	56.9	53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	66.9	66.7	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

			Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Description	Impact Device	Usage(%)				
Tractor	No	40	84		300	0
Grader	No	40	85		300	0
Water Truck	No	40		75	300	0
Dozer	No	40		81.7	300	0

	Results													
	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	68.4	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	69.4	65.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	59.4	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	66.1	62.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.4	69.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Paving6

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	100	0
Drum Mixer	No	50		80	100	0
Drum Mixer	No	50		80	100	0
Concrete Pump Truck	No	20		81.4	100	0
Paver	No	50		77.2	100	0
Roller	No	20		80	100	0
Tractor	No	40	84		100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	72.8	68.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	74	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	74	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	75.4	68.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	71.2	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	74	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	78	78.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	1200	0
Drum Mixer	No	50		80	1200	0
Drum Mixer	No	50		80	1200	0
Concrete Pump Truck	No	20		81.4	1200	0
Paver	No	50		77.2	1200	0
Roller	No	20		80	1200	0
Tractor	No	40	84		1200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	51.2	47.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	52.4	49.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	52.4	49.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	53.8	46.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	49.6	46.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	52.4	45.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	56.4	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	56.4	57.2		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	400	0
Drum Mixer	No	50		80	400	0
Drum Mixer	No	50		80	400	0
Concrete Pump Truck	No	20		81.4	400	0
Paver	No	50		77.2	400	0
Roller	No	20		80	400	0
Tractor	No	40	84		400	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	60.7	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	61.9	58.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	61.9	58.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	63.3	56.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	59.2	56.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	61.9	54.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	65.9	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.9	66.8		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	300	0
Drum Mixer	No	50		80	300	0
Drum Mixer	No	50		80	300	0
Concrete Pump Truck	No	20		81.4	300	0
Paver	No	50		77.2	300	0
Roller	No	20		80	300	0
Tractor	No	40	84		300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	63.2	59.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	64.4	61.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	64.4	61.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	65.8	58.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	61.7	58.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	64.4	57.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	68.4	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	68.4	69.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Building6

---- Receptor #1 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	100	0
Welder / Torch	No	40		74	100	0
Welder / Torch	No	40		74	100	0
Crane	No	16		80.6	100	0
Forklift	No	40		75	100	0
Forklift	No	40		75	100	0
Generator	No	50		80.6	100	0
Tractor	No	40	84		100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	74.5	66.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	69	65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	69	65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	78	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	1200	0
Welder / Torch	No	40		74	1200	0
Welder / Torch	No	40		74	1200	0
Crane	No	16		80.6	1200	0
Forklift	No	40		75	1200	0
Forklift	No	40		75	1200	0
Generator	No	50		80.6	1200	0
Tractor	No	40	84		1200	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	46.4	42.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	46.4	42.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	46.4	42.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	52.9	45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	47.4	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	47.4	43.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	53	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	56.4	52.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	56.4	56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	400	0
Welder / Torch	No	40		74	400	0
Welder / Torch	No	40		74	400	0
Crane	No	16		80.6	400	0
Forklift	No	40		75	400	0
Forklift	No	40		75	400	0
Generator	No	50		80.6	400	0
Tractor	No	40	84		400	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	55.9	52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	55.9	52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	55.9	52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	62.5	54.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	56.9	53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	56.9	53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	62.6	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	65.9	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.9	65.6		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	300	0
Welder / Torch	No	40		74	300	0
Welder / Torch	No	40		74	300	0
Crane	No	16		80.6	300	0
Forklift	No	40		75	300	0
Forklift	No	40		75	300	0
Generator	No	50		80.6	300	0
Tractor	No	40	84		300	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	58.4	54.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	58.4	54.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	58.4	54.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	65	57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	59.4	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	59.4	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	65.1	62.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	68.4	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	68.4	68.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Parenthetical FHWA Roadway Construction Noise Model (RCNM) Assumptions FHWA-HEP-05-054 DOT-VNTSC-FHWA-05-01 For: Salt Creek – Phase 7 Date: September 2008

Demolition Equipment:

Quantity	Type
2	Tractor/Loaders/Backhoe
1	Concrete/Industrial Saws
1	Rubber Tired Dozer

Mass Grading Equipment:

Quantity	Type
1	Grader
1	Rubber Tired Dozer
1	Tractor/Loaders/Backhoe
1	Water Trucks

Fine Grading Equipment:

Quantity	Type
1	Tractor/Loaders/Backhoe
1	Grader
1	Rubber Tired Dozer
1	Water Trucks

Paving Equipment:

Quantity	Type
4	Cement and Mortar Mixers
1	Paving Equipment
1	Paver
1	Roller
1	Tractor/Loader/Backhoe

Building Equipment:

Quantity	Type
3	Welders
1	Crane
2	Forklift
1	Generator Set
1	Tractor/Loader/Backhoe

Roadway Construction Noise Model (RCNM),Version 1.0

Report date 9/29/2008
Case Desc Salt Creek Demo7

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		4500	0
Backhoe	No	40		77.6	4500	0
Concrete Saw	No	20		89.6	4500	0
Dozer	No	40		81.7	4500	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	44.9	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	38.5	34.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	50.5	43.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	42.6	38.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	50.5	46.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Backhoe	No	40		77.6	50	0
Concrete Saw	No	20		89.6	50	0
Dozer	No	40		81.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.6	85.6		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Backhoe	No	40		77.6	50	0

Concrete Saw	No	20	89.6	50	0
Dozer	No	40	81.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.6	85.6	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

			Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Description	Impact Device	Usage(%)				
Tractor	No	40	84		50	0
Backhoe	No	40		77.6	50	0
Concrete Saw	No	20		89.6	50	0
Dozer	No	40		81.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	77.6	73.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	89.6	82.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.6	85.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Grading7

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		4500	0
Grader	No	40	85		4500	0
Water Truck	No	40		75	4500	0
Dozer	No	40		81.7	4500	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	44.9	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	45.9	41.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	35.9	31.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	42.6	38.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	45.9	45.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Grader	No	40	85		50	0
Water Truck	No	40		75	50	0
Dozer	No	40		81.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	85	81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	85	84.7		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Grader	No	40	85		50	0
Water Truck	No	40		75	50	0
Dozer	No	40		81.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	85	81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	85	84.7	0		0		0		0		0		0	

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		50	0
Grader	No	40	85		50	0
Water Truck	No	40		75	50	0
Dozer	No	40		81.7	50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	85	81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	81.7	77.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	85	84.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Paving7

---- Receptor #1 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	4500	0
Drum Mixer	No	50		80	4500	0
Drum Mixer	No	50		80	4500	0
Concrete Pump Truck	No	20		81.4	4500	0
Paver	No	50		77.2	4500	0
Roller	No	20		80	4500	0
Tractor	No	40	84		4500	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	39.7	35.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40.9	37.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40.9	37.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	42.3	35.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	38.1	35.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	40.9	33.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44.9	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44.9	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	50	0
Drum Mixer	No	50		80	50	0
Drum Mixer	No	50		80	50	0
Concrete Pump Truck	No	20		81.4	50	0
Paver	No	50		77.2	50	0
Roller	No	20		80	50	0
Tractor	No	40	84		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	78.8	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	84.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night

East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	50	0
Drum Mixer	No	50		80	50	0
Drum Mixer	No	50		80	50	0
Concrete Pump Truck	No	20		81.4	50	0
Paver	No	50		77.2	50	0
Roller	No	20		80	50	0
Tractor	No	40	84		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	78.8	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	84.8		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	50	0
Drum Mixer	No	50		80	50	0
Drum Mixer	No	50		80	50	0
Concrete Pump Truck	No	20		81.4	50	0
Paver	No	50		77.2	50	0
Roller	No	20		80	50	0
Tractor	No	40	84		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	78.8	74.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	80	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	81.4	74.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	77.2	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	80	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	84.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Building7

---- Receptor #1 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	4500	0
Welder / Torch	No	40		74	4500	0
Welder / Torch	No	40		74	4500	0
Crane	No	16		80.6	4500	0
Forklift	No	40		75	4500	0
Forklift	No	40		75	4500	0
Generator	No	50		80.6	4500	0
Tractor	No	40	84		4500	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	34.9	30.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	34.9	30.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	34.9	30.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	41.5	33.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	35.9	31.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	35.9	31.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	41.5	38.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44.9	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44.9	44.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	50	0
Crane	No	16		80.6	50	0
Forklift	No	40		75	50	0
Forklift	No	40		75	50	0
Generator	No	50		80.6	50	0
Tractor	No	40	84		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	83.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	50	0
Crane	No	16		80.6	50	0
Forklift	No	40		75	50	0
Forklift	No	40		75	50	0
Generator	No	50		80.6	50	0
Tractor	No	40	84		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	83.7		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	50	0
Welder / Torch	No	40		74	50	0
Crane	No	16		80.6	50	0
Forklift	No	40		75	50	0
Forklift	No	40		75	50	0
Generator	No	50		80.6	50	0
Tractor	No	40	84		50	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	74	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	80.6	72.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	75	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	80.6	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	84	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84	83.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Parenthetical FHWA Roadway Construction Noise Model (RCNM) Assumptions FHWA-HEP-05-054 DOT-VNTSC-FHWA-05-01 For: Salt Creek – Phase 8 Date: September 2008

Demolition Equipment:

Quantity	Type
2	Tractor/Loaders/Backhoe
1	Concrete/Industrial Saws
1	Rubber Tired Dozer

Mass Grading Equipment:

Quantity	Type
1	Grader
1	Rubber Tired Dozer
1	Tractor/Loaders/Backhoe
1	Water Trucks

Fine Grading Equipment:

Quantity	Type
1	Tractor/Loaders/Backhoe
1	Grader
1	Rubber Tired Dozer
1	Water Trucks

Paving Equipment:

Quantity	Type
4	Cement and Mortar Mixers
2	Paving Equipment
1	Paver
1	Roller
1	Tractor/Loader/Backhoe

Building Equipment:

Quantity	Type
3	Welders
1	Crane
2	Forklift
1	Generator Set
1	Tractor/Loader/Backhoe

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Demo8

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		4500	0
Backhoe	No	40		77.6	4500	0
Concrete Saw	No	20		89.6	4500	0
Dozer	No	40		81.7	4500	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	44.9	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	38.5	34.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	50.5	43.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	42.6	38.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	50.5	46.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		400	0
Backhoe	No	40		77.6	400	0
Concrete Saw	No	20		89.6	400	0
Dozer	No	40		81.7	400	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	65.9	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	71.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.5	67.5		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		800	0
Backhoe	No	40		77.6	800	0
Concrete Saw	No	20		89.6	800	0
Dozer	No	40		81.7	800	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq

Tractor	59.9	55.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	53.5	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	65.5	58.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	57.6	53.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.5	61.5		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		100	0
Backhoe	No	40		77.6	100	0
Concrete Saw	No	20		89.6	100	0
Dozer	No	40		81.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	78	74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Saw	83.6	76.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	83.6	79.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Grading8

---- Receptor #1 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		4500	0
Grader	No	40	85		4500	0
Water Truck	No	40		75	4500	0
Dozer	No	40		81.7	4500	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	44.9	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	45.9	41.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	35.9	31.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	42.6	38.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	45.9	45.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		400	0
Grader	No	40	85		400	0
Water Truck	No	40		75	400	0
Dozer	No	40		81.7	400	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	65.9	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	66.9	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	56.9	53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	63.6	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	66.9	66.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		800	0
Grader	No	40	85		800	0
Water Truck	No	40		75	800	0
Dozer	No	40		81.7	800	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	59.9	55.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	60.9	56.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	50.9	46.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	57.6	53.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	60.9	60.7	0		0		0		0		0		0	

*Calculatec p

---- Receptor #4 ----

		Baselines (dBA)		
Descriptior	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		100	0
Grader	No	40	85		100	0
Water Truck	No	40		75	100	0
Dozer	No	40		81.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor	78	74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	79	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Truck	69	65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	79	78.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report date 9/29/2008
Case Desc Salt Creek Paving8

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	4500	0
Drum Mixer	No	50		80	4500	0
Drum Mixer	No	50		80	4500	0
Concrete Pump Truck	No	20		81.4	4500	0
Paver	No	50		77.2	4500	0
Roller	No	20		80	4500	0
Tractor	No	40	84		4500	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	39.7	35.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40.9	37.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	40.9	37.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	42.3	35.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	38.1	35.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	40.9	33.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44.9	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44.9	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	400	0
Drum Mixer	No	50		80	400	0
Drum Mixer	No	50		80	400	0
Concrete Pump Truck	No	20		81.4	400	0
Paver	No	50		77.2	400	0
Roller	No	20		80	400	0
Tractor	No	40	84		400	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	60.7	56.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	61.9	58.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	61.9	58.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	63.3	56.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	59.2	56.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	61.9	54.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	65.9	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	65.9	66.8		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	800	0
Drum Mixer	No	50		80	800	0
Drum Mixer	No	50		80	800	0
Concrete Pump Truck	No	20		81.4	800	0
Paver	No	50		77.2	800	0
Roller	No	20		80	800	0
Tractor	No	40	84		800	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	54.7	50.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	55.9	52.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	55.9	52.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	57.3	50.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	53.1	50.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	55.9	48.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	59.9	55.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	59.9	60.8		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Descriptior	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Mixer Truck	No	40		78.8	100	0
Drum Mixer	No	50		80	100	0
Drum Mixer	No	50		80	100	0
Concrete Pump Truck	No	20		81.4	100	0
Paver	No	50		77.2	100	0
Roller	No	20		80	100	0
Tractor	No	40	84		100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	72.8	68.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	74	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drum Mixer	74	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Pump Truck	75.4	68.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	71.2	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	74	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	78	78.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.0

Report dat 9/29/2008
Case Desc Salt Creek Building8

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	4500	0
Welder / Torch	No	40		74	4500	0
Welder / Torch	No	40		74	4500	0
Crane	No	16		80.6	4500	0
Forklift	No	40		75	4500	0
Forklift	No	40		75	4500	0
Generator	No	50		80.6	4500	0
Tractor	No	40	84		4500	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	34.9	30.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	34.9	30.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	34.9	30.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	41.5	33.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	35.9	31.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	35.9	31.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	41.5	38.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	44.9	40.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	44.9	44.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
South	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	400	0
Welder / Torch	No	40		74	400	0
Welder / Torch	No	40		74	400	0
Crane	No	16		80.6	400	0
Forklift	No	40		75	400	0
Forklift	No	40		75	400	0
Generator	No	50		80.6	400	0
Tractor	No	40	84		400	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	55.9	52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	55.9	52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	55.9	52	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	62.5	54.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	56.9	53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	56.9	53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	62.6	59.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	65.9	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total	65.9	65.6	0	0	0	0	0	0

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	800	0
Welder / Torch	No	40		74	800	0
Welder / Torch	No	40		74	800	0
Crane	No	16		80.6	800	0
Forklift	No	40		75	800	0
Forklift	No	40		75	800	0
Generator	No	50		80.6	800	0
Tractor	No	40	84		800	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	49.9	45.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	49.9	45.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	49.9	45.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	56.5	48.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	50.9	46.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	50.9	46.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	56.5	53.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	59.9	55.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	59.9	59.6		0		0		0		0		0		0

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Welder / Torch	No	40		74	100	0
Welder / Torch	No	40		74	100	0
Welder / Torch	No	40		74	100	0
Crane	No	16		80.6	100	0
Forklift	No	40		75	100	0
Forklift	No	40		75	100	0
Generator	No	50		80.6	100	0
Tractor	No	40	84		100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crane	74.5	66.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	69	65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	69	65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	78	74	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	78	77.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	West of Lower Springs Road		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	7125
Peak Hour Traffic:	712.5
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

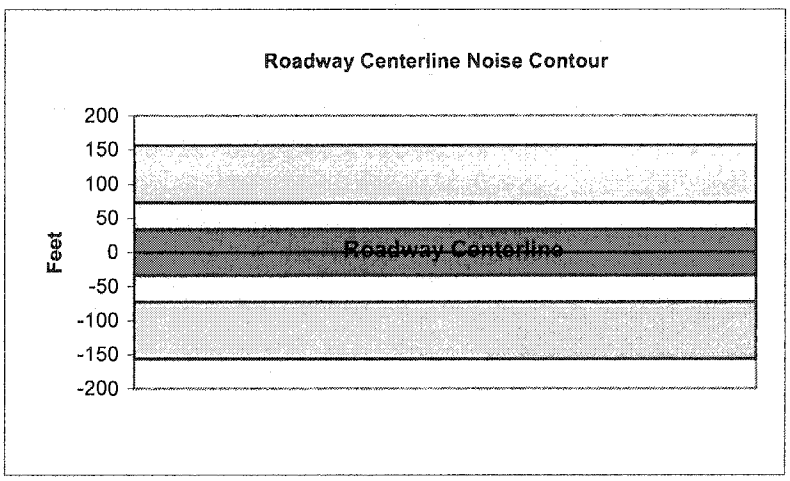
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.6	60.4	58.6	52.5	61.2	61.8
Medium Trucks:	58.8	50.7	44.3	42.7	51.2	51.5
Heavy Trucks:	62.7	50.8	41.7	42.9	52.2	52.3
Vehicle Noise:	**65.0**	**61.3**	**58.9**	**53.5**	**62.1**	**62.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	157
65 dBA	73
70 dBA	34
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Lower Springs Road and Cemetery Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8753
Peak Hour Traffic:	875.3
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

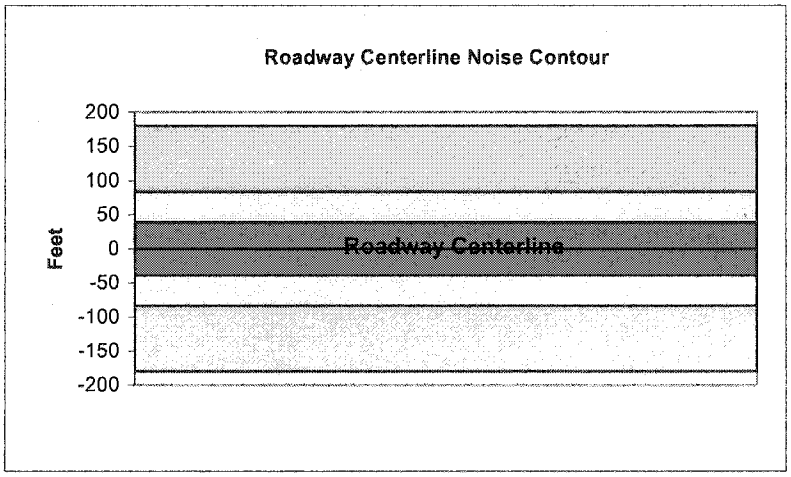
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.5	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	59.6	51.6	45.2	43.6	52.1	52.3
Heavy Trucks:	63.6	51.7	42.6	43.8	53.1	53.2
Vehicle Noise:	**65.9**	**62.2**	**59.8**	**54.4**	**63.0**	**63.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	180
65 dBA	84
70 dBA	39
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Cemetery Drive and Ridge Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8753
Peak Hour Traffic:	875.3
Vehicle Speed:	45
Centerline Separation:	30

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

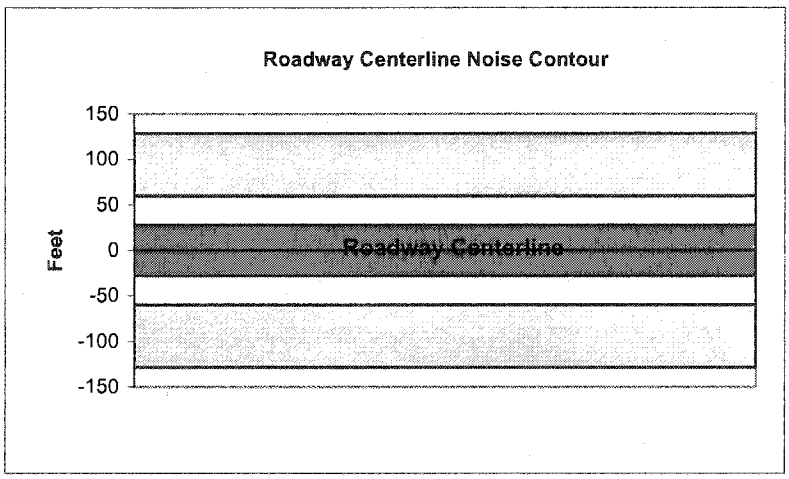
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.5	58.3	56.5	50.4	59.1	59.7
Medium Trucks:	57.8	49.7	43.3	41.7	50.2	50.5
Heavy Trucks:	62.3	50.4	41.3	42.5	52.1	52.2
Vehicle Noise:	**64.6**	**59.6**	**56.9**	**51.7**	**60.3**	**60.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	129
65 dBA	60
70 dBA	28
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Ridge Drive and Buenaventura Boulevard		

PROJECT DATA

Centerline Dist to Barrier:	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	5.5		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8753
Peak Hour Traffic:	875.3
Vehicle Speed:	45
Centerline Separation:	39.7

NOISE INPUTS

Site conditions: SOFT SITE

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

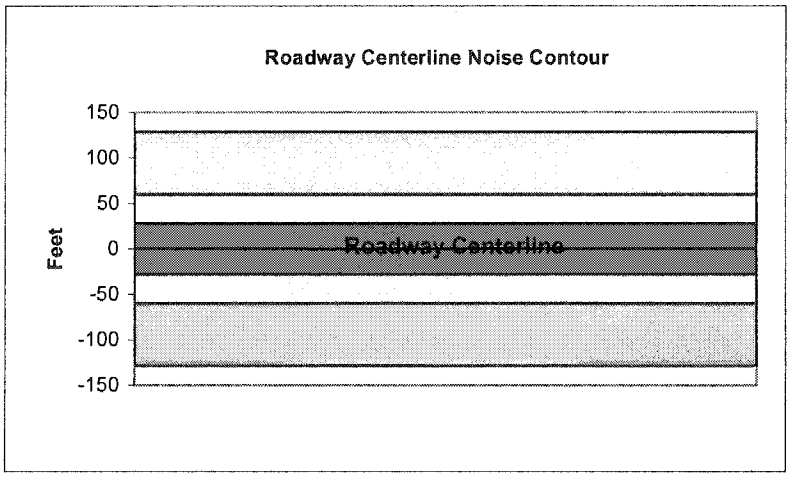
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.3	58.0	56.3	50.2	58.8	59.4
Medium Trucks:	57.5	49.5	43.1	41.5	50.0	50.2
Heavy Trucks:	62.1	50.1	41.1	42.3	51.8	52.0
Vehicle Noise:	**64.4**	**59.3**	**56.6**	**51.5**	**60.1**	**60.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	129
65 dBA	60
70 dBA	28
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Buenaventura Boulevard and Sunset Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	15173
Peak Hour Traffic:	1517.3
Vehicle Speed:	45
Centerline Separation:	36.1

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

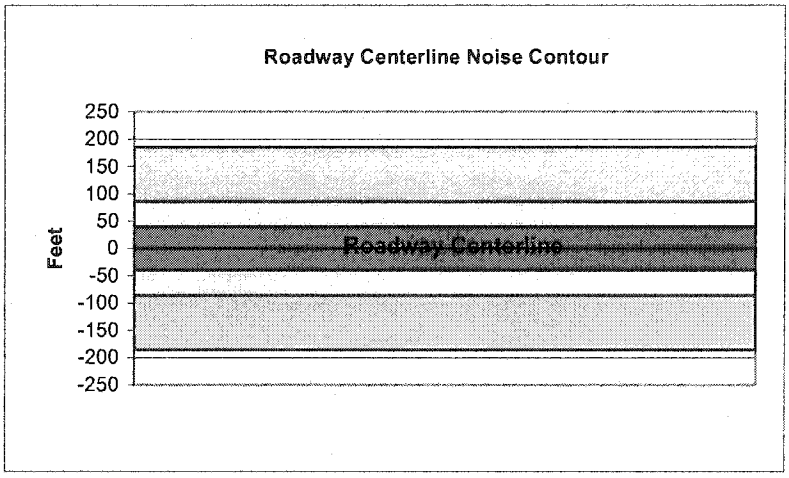
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.7	60.5	58.7	52.6	61.3	61.9
Medium Trucks:	60.0	51.9	45.6	44.0	52.5	52.7
Heavy Trucks:	64.5	52.6	43.5	44.8	54.3	54.4
Vehicle Noise:	**66.9**	**61.8**	**59.1**	**53.9**	**62.5**	**63.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	186
65 dBA	86
70 dBA	40
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Sunset Drive and Overhill Drive		

PROJECT DATA

Centerline Dist to Barrier:	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	5.5		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16295
Peak Hour Traffic:	1629.5
Vehicle Speed:	45
Centerline Separation:	38.3

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

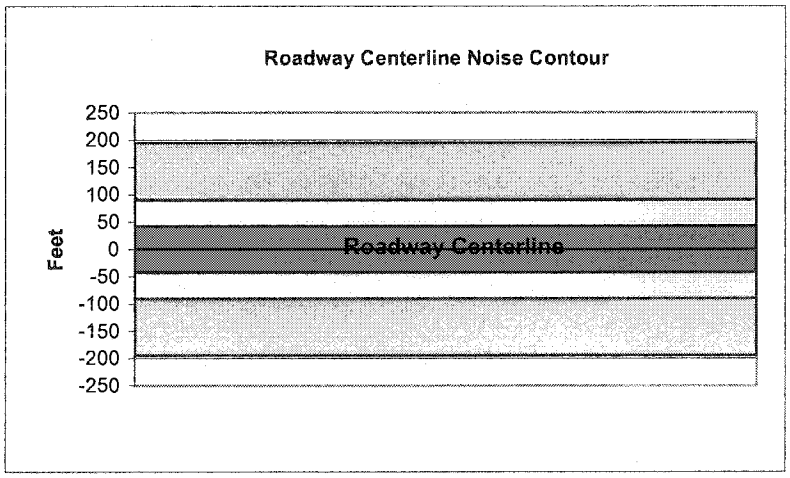
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.0	60.8	59.0	52.9	61.6	62.2
Medium Trucks:	60.3	52.2	45.8	44.2	52.7	53.0
Heavy Trucks:	64.8	52.9	43.8	45.0	54.6	54.7
Vehicle Noise:	**67.1**	**62.1**	**59.4**	**54.2**	**62.8**	**63.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	195
65 dBA	90
70 dBA	42
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Overhill Drive and Almond Drive		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14970
Peak Hour Traffic:	**1497**
Vehicle Speed:	45
Centerline Separation:	37.2

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

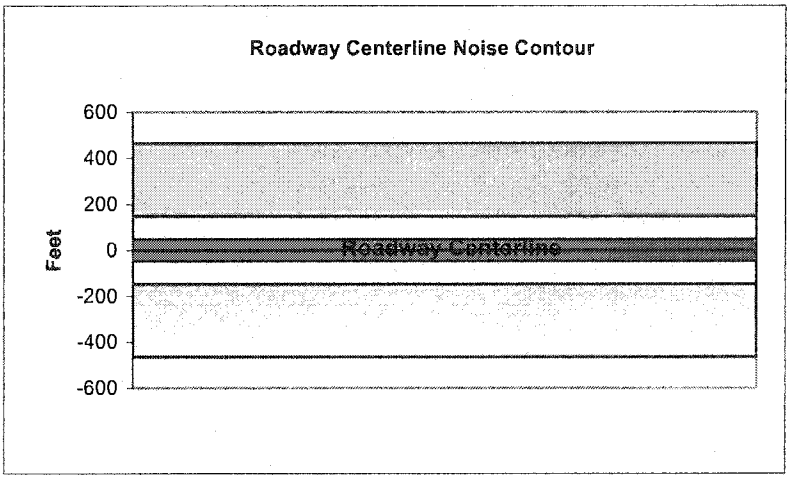
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.7	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	63.0	54.9	48.5	46.9	55.4	55.7
Heavy Trucks:	67.5	55.6	46.5	47.7	57.3	57.4
Vehicle Noise:	**69.8**	**64.8**	**62.1**	**56.9**	**65.5**	**66.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	465
65 dBA	147
70 dBA	47
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	West of Buenaventura Boulevard		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13190
Peak Hour Traffic:	1319
Vehicle Speed:	45
Centerline Separation:	28.5

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

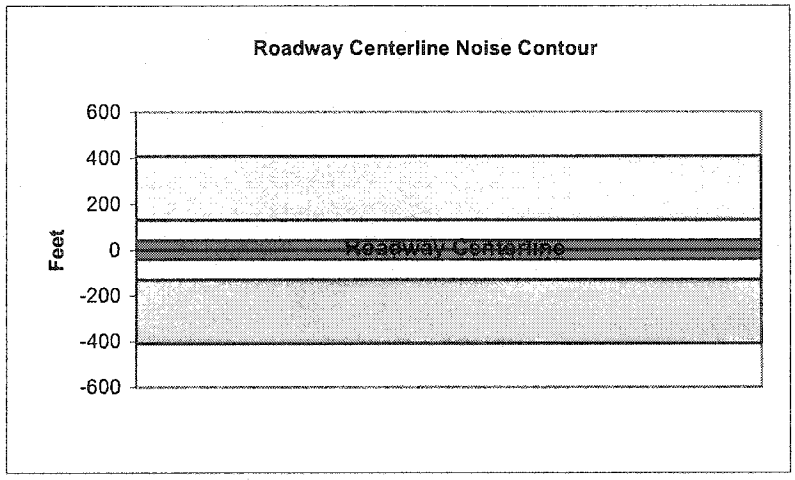
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.3	63.1	61.3	55.2	63.8	64.5
Medium Trucks:	62.6	54.5	48.1	46.5	55.0	55.3
Heavy Trucks:	67.1	55.1	46.1	47.3	56.9	57.0
Vehicle Noise:	**69.4**	**64.4**	**61.6**	**56.5**	**65.1**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	410
65 dBA	130
70 dBA	41
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	Between Buenaventura Boulevard and Pleasant Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12793
Peak Hour Traffic:	**1279.3**
Vehicle Speed:	45
Centerline Separation:	24.5

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

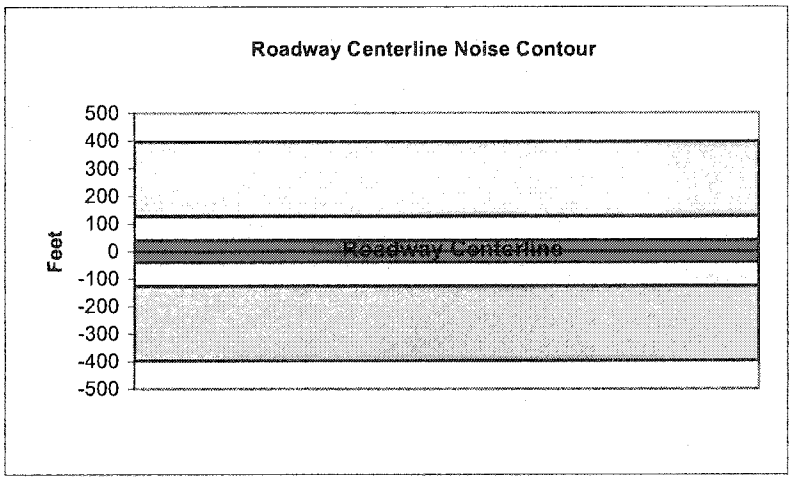
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.2	63.0	61.2	55.1	63.8	64.4
Medium Trucks:	62.5	54.4	48.0	46.5	55.0	55.2
Heavy Trucks:	67.0	55.1	46.0	47.2	56.8	56.9
Vehicle Noise:	**69.4**	**64.3**	**61.6**	**56.4**	**65.0**	**65.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	398
65 dBA	126
70 dBA	40
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	Between Pleasant Street and Airpark Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13823
Peak Hour Traffic:	1382.3
Vehicle Speed:	45
Centerline Separation:	30.4

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

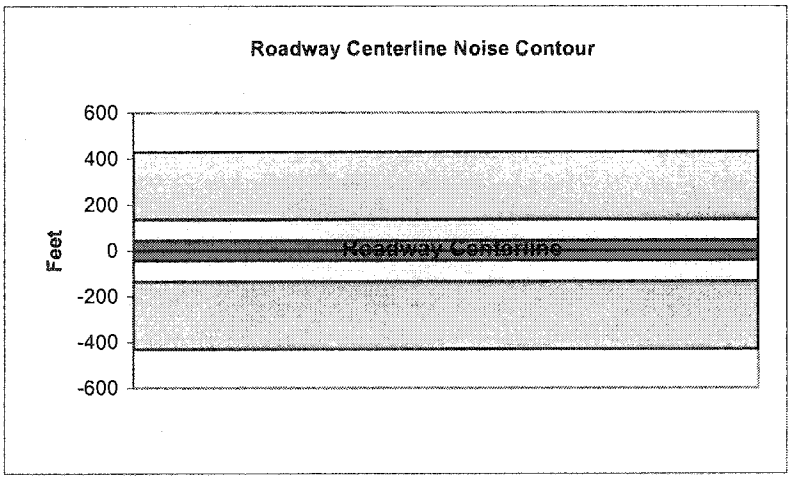
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.5	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	62.7	54.7	48.3	46.7	55.2	55.4
Heavy Trucks:	67.3	55.3	46.3	47.5	57.0	57.2
Vehicle Noise:	**69.6**	**64.5**	**61.8**	**56.7**	**65.3**	**65.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	430
65 dBA	136
70 dBA	43
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Lower Springs Road		
Road Segment:	South of Eureka Way		

PROJECT DATA

Centerline Dist to Barrier:	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	5.5		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	845
Peak Hour Traffic:	84.5
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

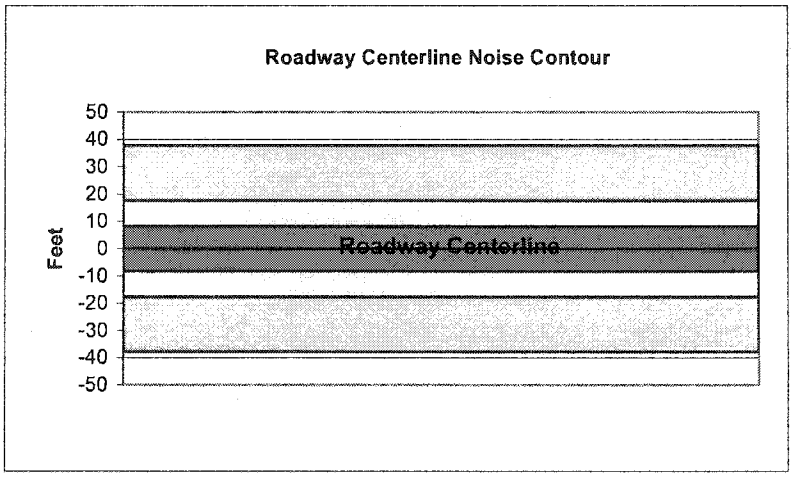
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.4	51.1	49.4	43.3	51.9	52.5
Medium Trucks:	49.5	41.4	35.0	33.5	42.0	42.2
Heavy Trucks:	53.5	41.5	32.5	33.7	42.9	43.1
Vehicle Noise:	**55.8**	**52.1**	**49.6**	**44.2**	**52.8**	**53.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	38
65 dBA	18
70 dBA	8
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	Between Placer Street and Lakeside Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8920
Peak Hour Traffic:	892
Vehicle Speed:	45
Centerline Separation:	11

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

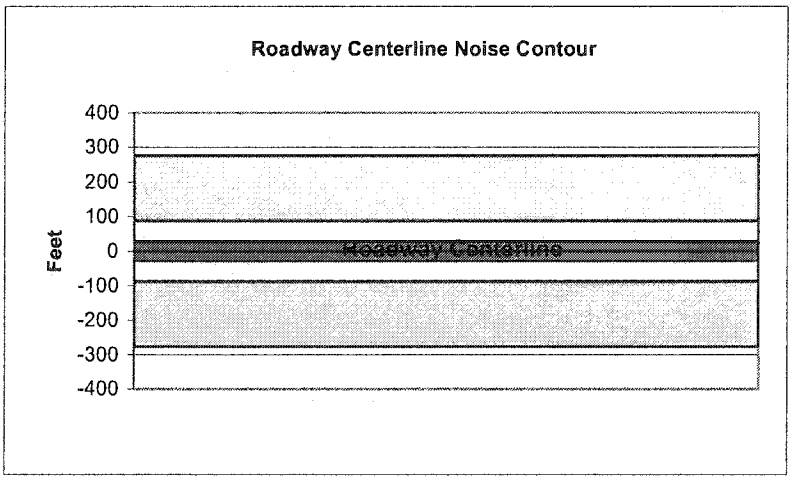
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.9	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	61.2	53.1	46.7	45.2	53.6	53.9
Heavy Trucks:	65.7	53.8	44.7	45.9	55.5	55.6
Vehicle Noise:	**68.0**	**63.0**	**60.3**	**55.1**	**63.7**	**64.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	277
65 dBA	88
70 dBA	28
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	Between Lakeside Drive and Eureka Way (SR-299)		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9920
Peak Hour Traffic:	992
Vehicle Speed:	45
Centerline Separation:	30.5

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

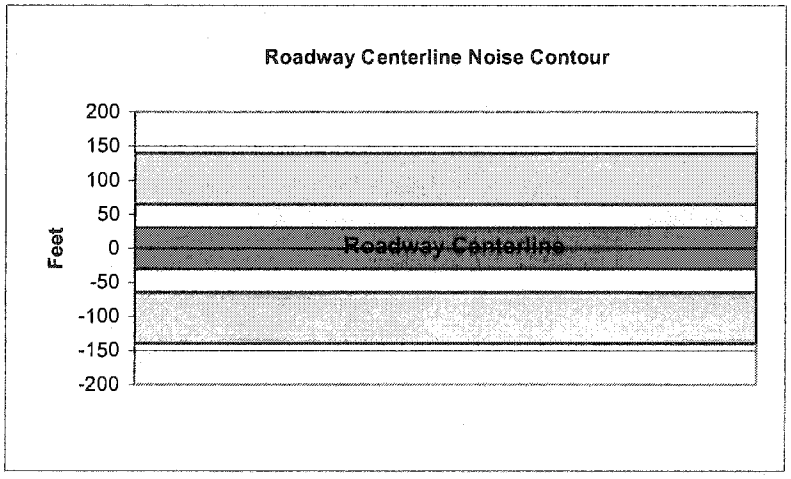
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.8	57.0	50.9	59.6	60.2
Medium Trucks:	58.3	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	62.8	50.9	41.8	43.0	52.6	52.7
Vehicle Noise:	**65.2**	**60.1**	**57.4**	**52.2**	**60.8**	**61.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	140
65 dBA	65
70 dBA	30
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Existing
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	Between Eureka Way (SR-299) and Sunflower Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1360
Peak Hour Traffic:	136
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

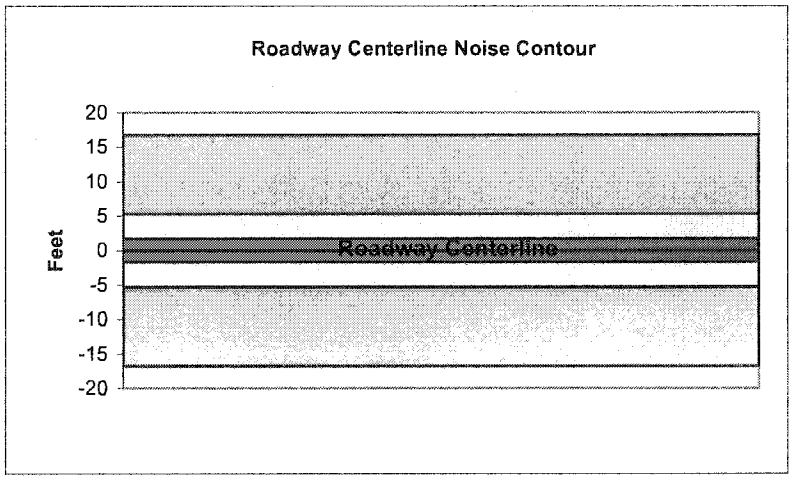
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.5	48.3	46.5	40.4	49.1	49.7
Medium Trucks:	50.1	42.1	35.7	34.1	42.6	42.8
Heavy Trucks:	55.8	43.8	34.8	36.0	46.1	46.3
Vehicle Noise:	**58.3**	**50.8**	**47.3**	**42.9**	**51.5**	**51.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	17
65 dBA	5
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	West of Lower Springs Road		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8190
Peak Hour Traffic:	819
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: SOFT SITE

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

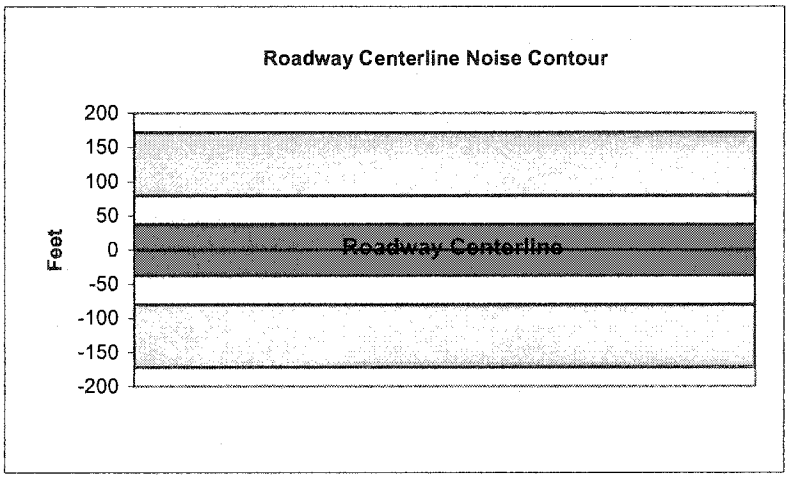
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.2	61.0	59.2	53.1	61.8	62.4
Medium Trucks:	59.4	51.3	44.9	43.3	51.8	52.1
Heavy Trucks:	63.3	51.4	42.3	43.5	52.8	52.9
Vehicle Noise:	**65.6**	**61.9**	**59.5**	**54.1**	**62.7**	**63.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	172
65 dBA	80
70 dBA	37
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Lower Springs Road and Cemetery Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9755
Peak Hour Traffic:	975.5
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

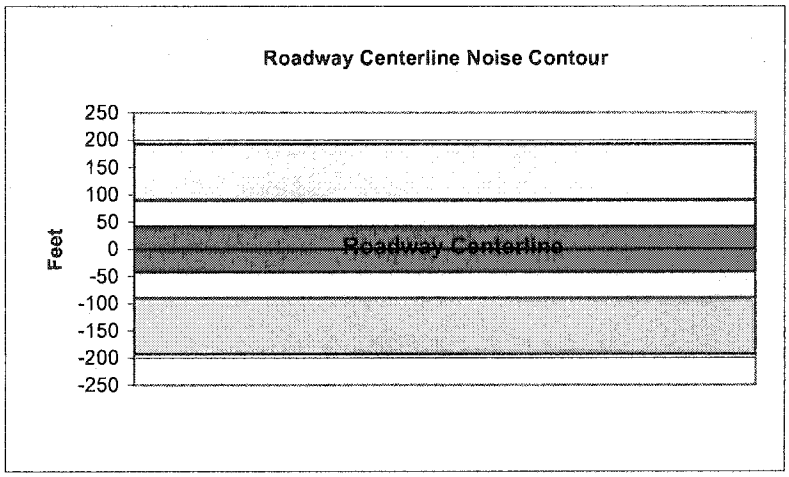
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.0	61.8	60.0	53.9	62.5	63.2
Medium Trucks:	60.1	52.0	45.7	44.1	52.6	52.8
Heavy Trucks:	64.1	52.1	43.1	44.3	53.6	53.7
Vehicle Noise:	**66.4**	**62.7**	**60.2**	**54.8**	**63.4**	**64.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	194
65 dBA	90
70 dBA	42
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Cemetery Drive and Ridge Drive		

PROJECT DATA

Centerline Dist to Barrier:	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	5.5		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9755
Peak Hour Traffic:	975.5
Vehicle Speed:	45
Centerline Separation:	30

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

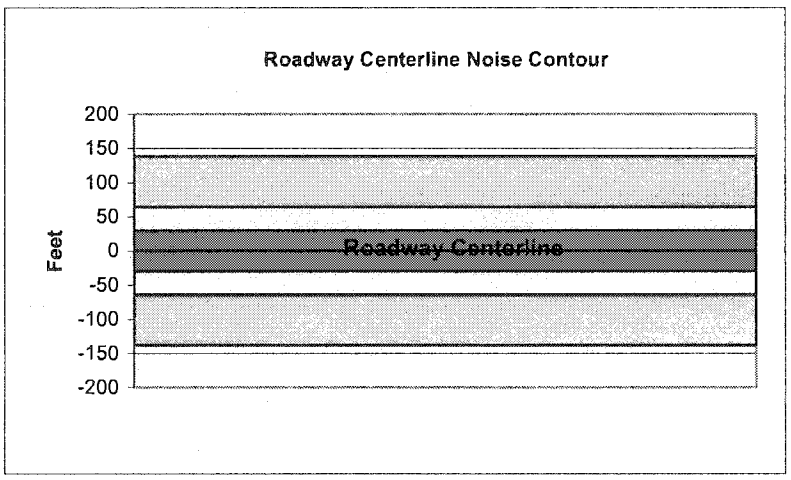
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.7	57.0	50.9	59.5	60.1
Medium Trucks:	58.2	50.2	43.8	42.2	50.7	50.9
Heavy Trucks:	62.8	50.8	41.8	43.0	52.5	52.7
Vehicle Noise:	**65.1**	**60.0**	**57.3**	**52.2**	**60.8**	**61.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	138
65 dBA	64
70 dBA	30
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Ridge Drive and Buenaventura Boulevard		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9755
Peak Hour Traffic:	975.5
Vehicle Speed:	45
Centerline Separation:	39.7

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

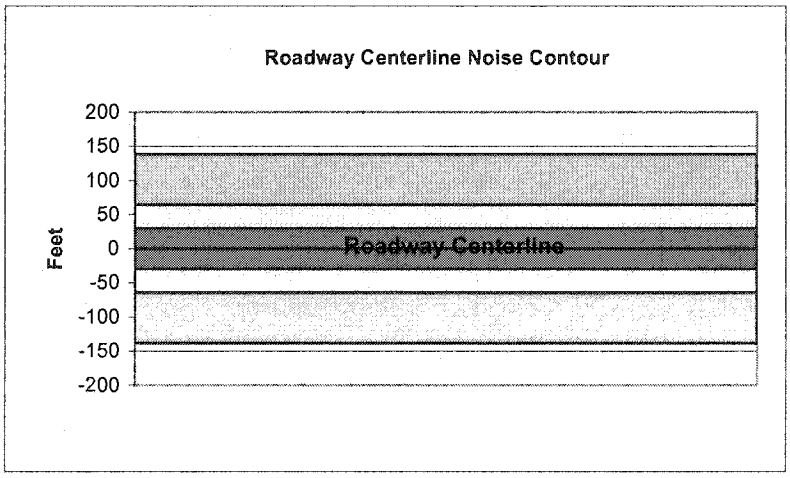
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	49.7	58.5	56.7	50.6	59.3	59.9
Medium Trucks:	58.0	49.9	43.6	42.0	50.5	50.7
Heavy Trucks:	62.5	50.6	41.5	42.8	52.3	52.4
Vehicle Noise:	**64.9**	**59.8**	**57.1**	**51.9**	**60.5**	**61.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	138
65 dBA	64
70 dBA	30
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Buenaventura Boulevard and Sunset Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	15098
Peak Hour Traffic:	**1509.8**
Vehicle Speed:	45
Centerline Separation:	36.1

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

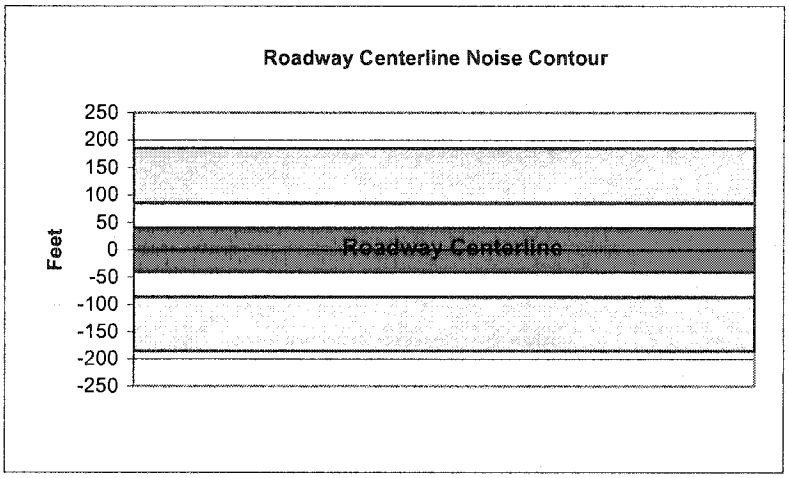
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.7	60.5	58.7	52.6	61.3	61.9
Medium Trucks:	60.0	51.9	45.5	44.0	52.5	52.7
Heavy Trucks:	64.5	52.6	43.5	44.7	54.3	54.4
Vehicle Noise:	**66.8**	**61.8**	**59.1**	**53.9**	**62.5**	**63.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	185
65 dBA	86
70 dBA	40
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	c Noise Prediction Model (CALV
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Sunset Drive and Overhill Drive		

PROJECT DATA			
Centerline Dist to Barrier:	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	5.5		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	16075
Peak Hour Traffic:	1607.5
Vehicle Speed:	45
Centerline Separation:	38.3

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

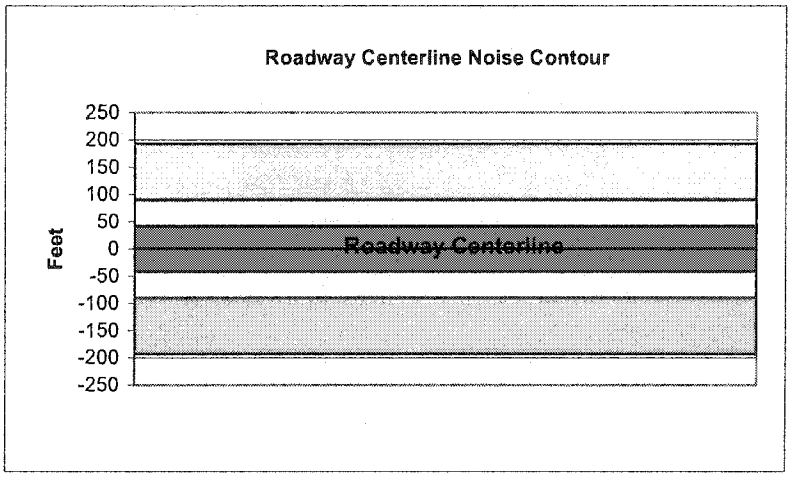
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.9	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	60.2	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	64.7	52.8	43.7	45.0	54.5	54.6
Vehicle Noise:	**67.1**	**62.0**	**59.3**	**54.1**	**62.7**	**63.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	193
65 dBA	90
70 dBA	42
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Overhill Drive and Almond Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	15043
Peak Hour Traffic:	1504.3
Vehicle Speed:	45
Centerline Separation:	37.2

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

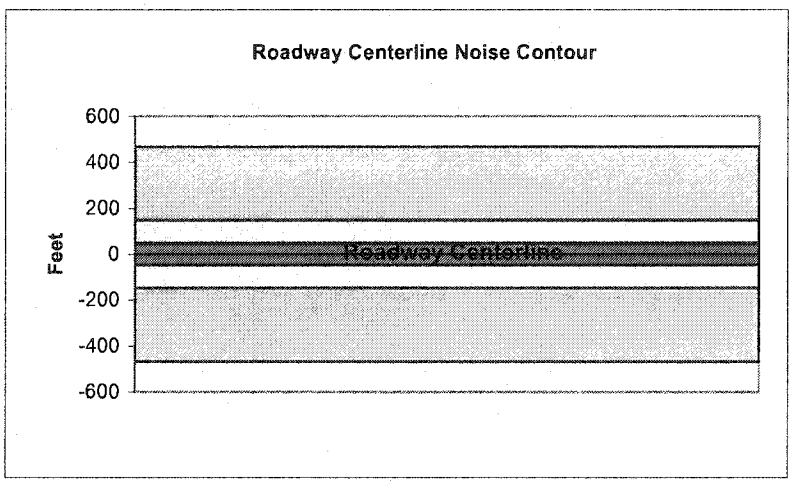
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.7	63.5	61.7	55.6	64.3	64.9
Medium Trucks:	63.0	54.9	48.5	47.0	55.5	55.7
Heavy Trucks:	67.5	55.6	46.5	47.7	57.3	57.4
Vehicle Noise:	**69.8**	**64.8**	**62.1**	**56.9**	**65.5**	**66.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	467
65 dBA	148
70 dBA	47
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	West of Buenaventura Boulevard		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	13190
Peak Hour Traffic:	1319
Vehicle Speed:	45
Centerline Separation:	28.5

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

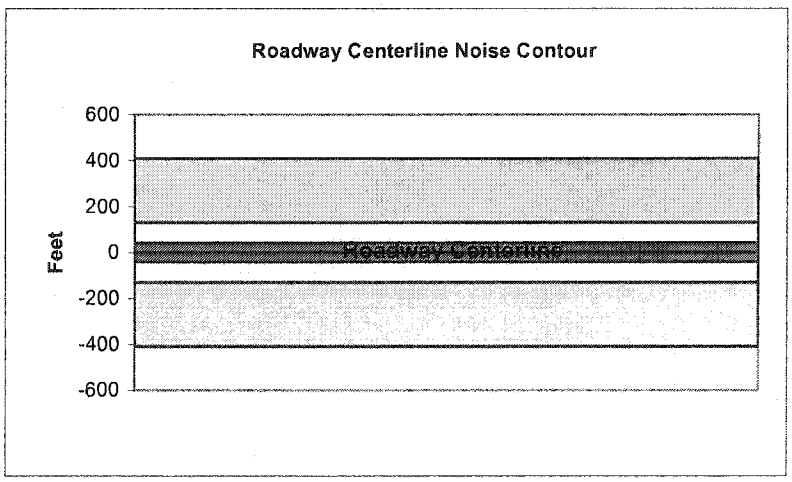
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.3	63.1	61.3	55.2	63.8	64.5
Medium Trucks:	62.6	54.5	48.1	46.5	55.0	55.3
Heavy Trucks:	67.1	55.1	46.1	47.3	56.9	57.0
Vehicle Noise:	**69.4**	**64.4**	**61.6**	**56.5**	**65.1**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	410
65 dBA	130
70 dBA	41
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	Between Buenaventura Boulevard and Pleasant Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16333
Peak Hour Traffic:	1633.3
Vehicle Speed:	45
Centerline Separation:	24.5

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

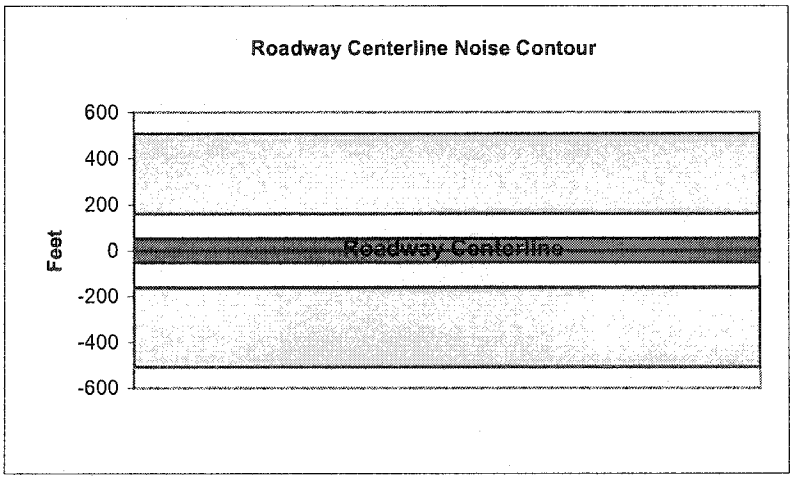
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.3	64.1	62.3	56.2	64.8	65.4
Medium Trucks:	63.6	55.5	49.1	47.5	56.0	56.3
Heavy Trucks:	68.1	56.1	47.1	48.3	57.9	58.0
Vehicle Noise:	**70.4**	**65.4**	**62.6**	**57.5**	**66.1**	**66.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	508
65 dBA	161
70 dBA	51
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	Between Pleasant Street and Airpark Drive		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	18335
Peak Hour Traffic:	**1833.5**
Vehicle Speed:	45
Centerline Separation:	30.4

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

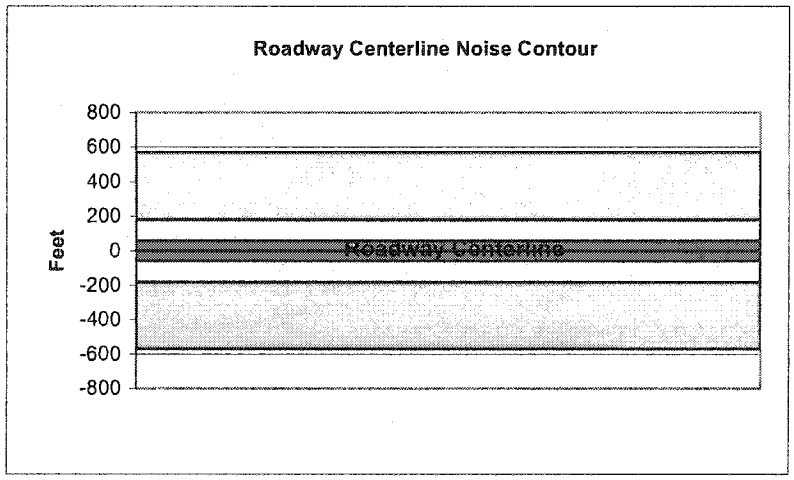
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.7	64.5	62.7	56.6	65.2	65.8
Medium Trucks:	64.0	55.9	49.5	47.9	56.4	56.7
Heavy Trucks:	68.5	56.5	47.5	48.7	58.3	58.4
Vehicle Noise:	**70.8**	**65.8**	**63.0**	**57.9**	**66.5**	**67.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	570
65 dBA	180
70 dBA	57
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Lower Springs Road		
Road Segment:	South of Eureka Way		

PROJECT DATA

Centerline Dist to Barrier:	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	5.5		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	860
Peak Hour Traffic:	86
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

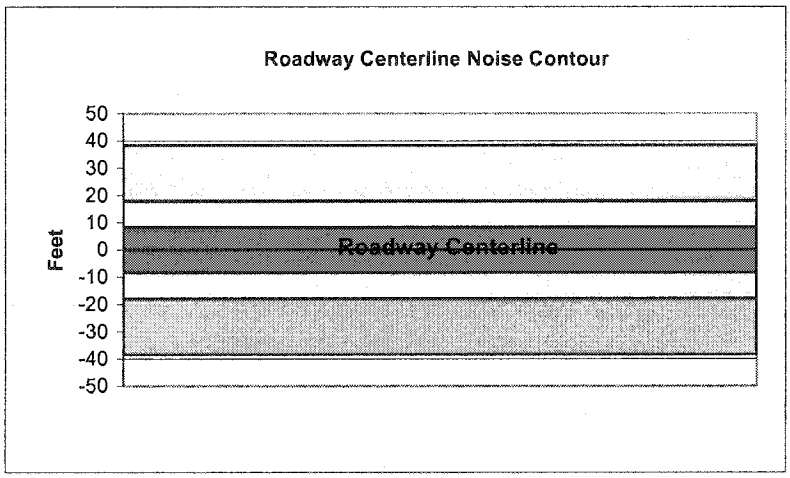
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.4	51.2	49.4	43.4	52.0	52.6
Medium Trucks:	49.6	41.5	35.1	33.5	42.0	42.3
Heavy Trucks:	53.5	41.6	32.5	33.8	43.0	43.1
Vehicle Noise:	**55.8**	**52.2**	**49.7**	**44.3**	**52.9**	**53.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	38
65 dBA	18
70 dBA	8
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	Between Placer Street and Lakeside Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10038
Peak Hour Traffic:	1003.8
Vehicle Speed:	45
Centerline Separation:	11

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

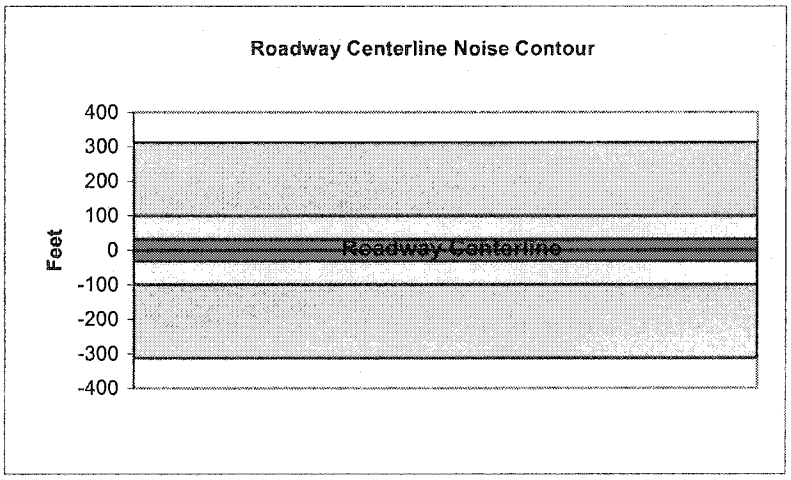
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.4	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	61.7	53.6	47.2	45.7	54.2	54.4
Heavy Trucks:	66.2	54.3	45.2	46.4	56.0	56.1
Vehicle Noise:	**68.6**	**63.5**	**60.8**	**55.6**	**64.2**	**64.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	312
65 dBA	99
70 dBA	31
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	Between Lakeside Drive and Eureka Way (SR-299)		

PROJECT DATA

Centerline Dist to Barrier:	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	5.5		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9920
Peak Hour Traffic:	992
Vehicle Speed:	45
Centerline Separation:	30.5

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

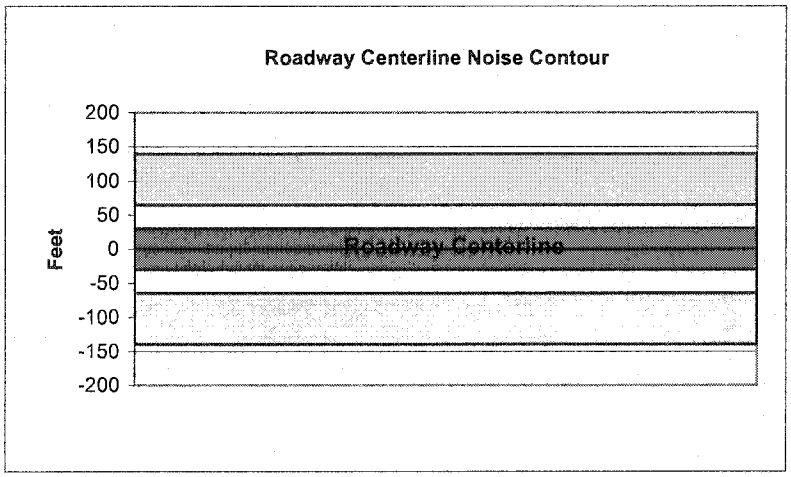
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.0	58.8	57.0	50.9	59.6	60.2
Medium Trucks:	58.3	50.2	43.9	42.3	50.8	51.0
Heavy Trucks:	62.8	50.9	41.8	43.0	52.6	52.7
Vehicle Noise:	**65.2**	**60.1**	**57.4**	**52.2**	**60.8**	**61.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	140
65 dBA	65
70 dBA	30
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	Between Eureka Way (SR-299) and Sunflower Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2120
Peak Hour Traffic:	212
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

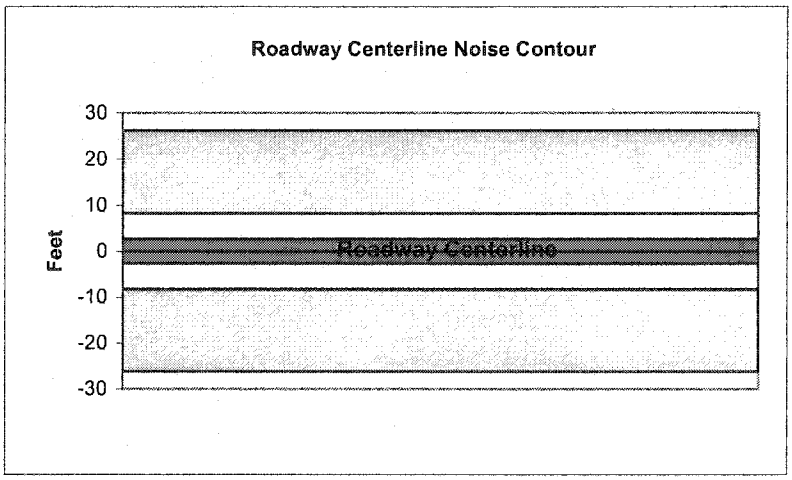
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.5	50.2	48.5	42.4	51.0	51.6
Medium Trucks:	52.1	44.0	37.6	36.0	44.5	44.8
Heavy Trucks:	57.7	45.8	36.7	37.9	48.1	48.2
Vehicle Noise:	**60.2**	**52.7**	**49.2**	**44.9**	**53.4**	**53.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	26
65 dBA	8
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	West of Lower Springs Road		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8390
Peak Hour Traffic:	839
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

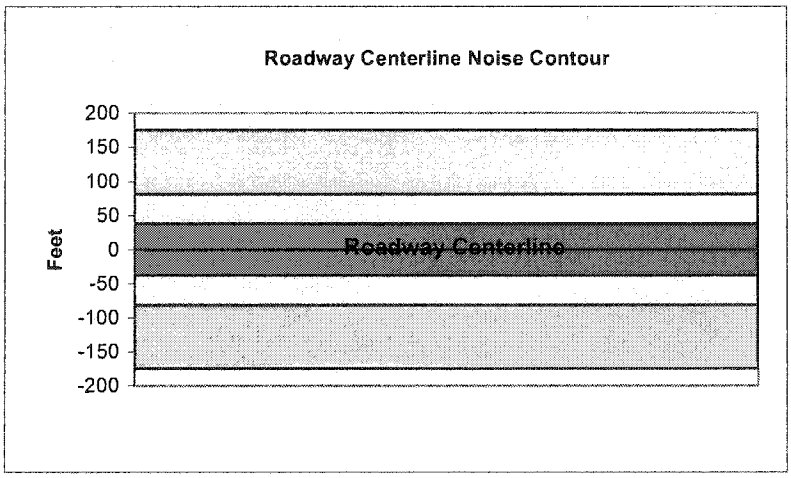
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.3	61.1	59.3	53.2	61.9	62.5
Medium Trucks:	59.5	51.4	45.0	43.4	51.9	52.2
Heavy Trucks:	63.4	51.5	42.4	43.7	52.9	53.0
Vehicle Noise:	**65.7**	**62.0**	**59.6**	**54.2**	**62.8**	**63.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	175
65 dBA	81
70 dBA	38
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Lower Springs Road and Cemetery Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11330
Peak Hour Traffic:	1133
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

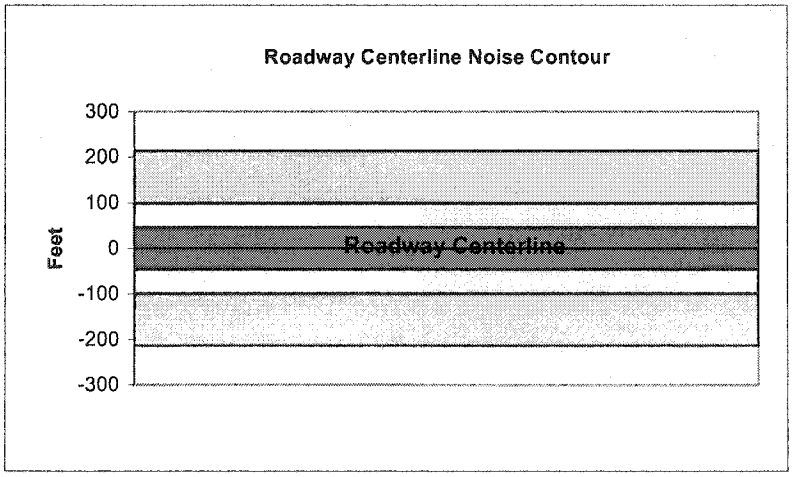
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.6	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	60.8	52.7	46.3	44.7	53.2	53.5
Heavy Trucks:	64.7	52.8	43.7	45.0	54.2	54.3
Vehicle Noise:	**67.0**	**63.4**	**60.9**	**55.5**	**64.1**	**64.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	214
65 dBA	99
70 dBA	46
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Cemetery Drive and Ridge Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11330
Peak Hour Traffic:	1133
Vehicle Speed:	45
Centerline Separation:	30

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

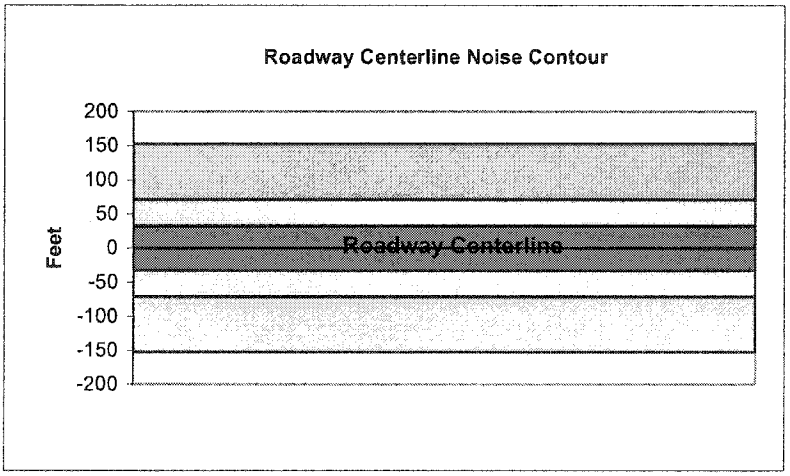
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.6	59.4	57.6	51.5	60.2	60.8
Medium Trucks:	58.9	50.8	44.4	42.9	51.4	51.6
Heavy Trucks:	63.4	51.5	42.4	43.6	53.2	53.3
Vehicle Noise:	**65.7**	**60.7**	**58.0**	**52.8**	**61.4**	**61.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	153
65 dBA	71
70 dBA	33
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Ridge Drive and Buenaventura Boulevard		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11330
Peak Hour Traffic:	1133
Vehicle Speed:	45
Centerline Separation:	39.7

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

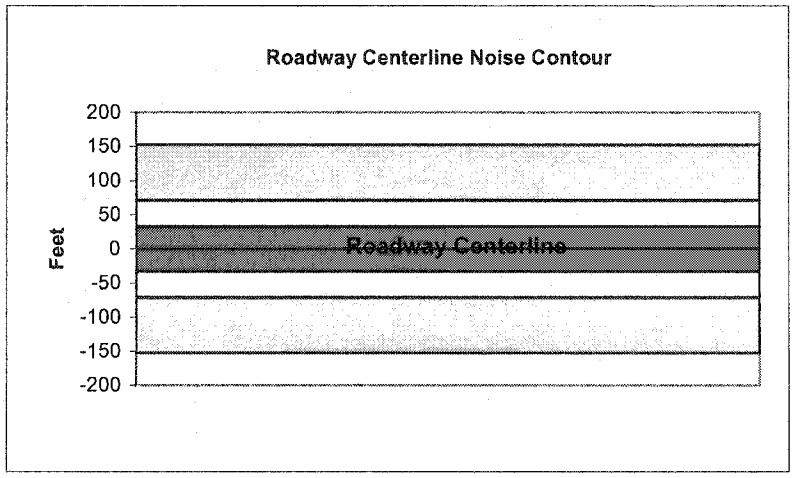
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.4	59.2	57.4	51.3	59.9	60.5
Medium Trucks:	58.7	50.6	44.2	42.6	51.1	51.4
Heavy Trucks:	63.2	51.2	42.2	43.4	52.9	53.1
Vehicle Noise:	**65.5**	**60.5**	**57.7**	**52.6**	**61.2**	**61.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	153
65 dBA	71
70 dBA	33
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Buenaventura Boulevard and Sunset Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16338
Peak Hour Traffic:	1633.8
Vehicle Speed:	45
Centerline Separation:	36.1

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

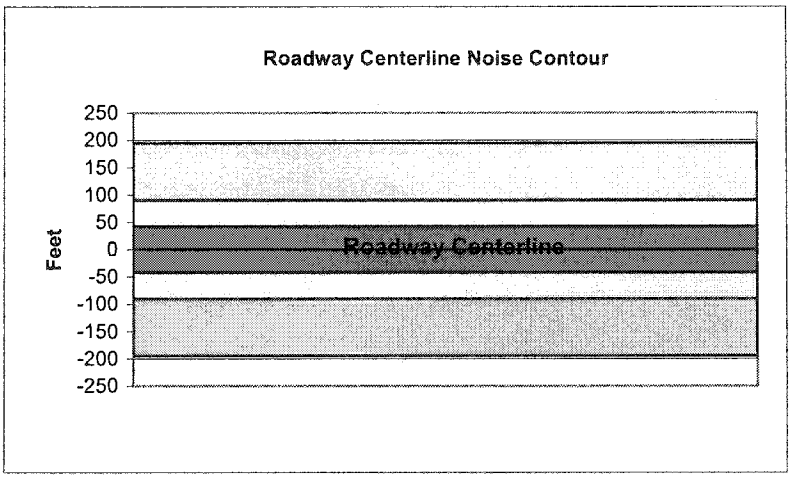
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.1	60.8	59.0	53.0	61.6	62.2
Medium Trucks:	60.3	52.3	45.9	44.3	52.8	53.0
Heavy Trucks:	64.9	52.9	43.9	45.1	54.6	54.8
Vehicle Noise:	**67.2**	**62.1**	**59.4**	**54.3**	**62.9**	**63.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	195
65 dBA	91
70 dBA	42
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Sunset Drive and Overhill Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16075
Peak Hour Traffic:	1607.5
Vehicle Speed:	45
Centerline Separation:	38.3

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

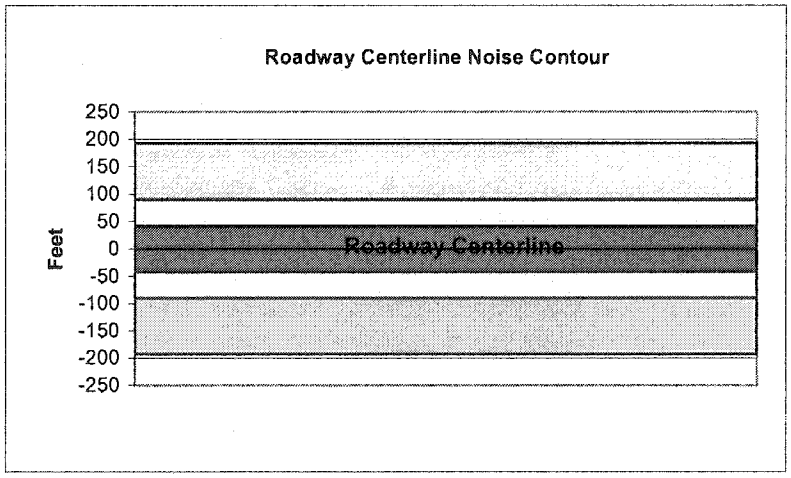
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.9	60.7	58.9	52.8	61.5	62.1
Medium Trucks:	60.2	52.1	45.8	44.2	52.7	52.9
Heavy Trucks:	64.7	52.8	43.7	45.0	54.5	54.6
Vehicle Noise:	**67.1**	**62.0**	**59.3**	**54.1**	**62.7**	**63.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	193
65 dBA	90
70 dBA	42
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Overhill Drive and Almond Drive		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16235
Peak Hour Traffic:	**1623.5**
Vehicle Speed:	45
Centerline Separation:	37.2

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

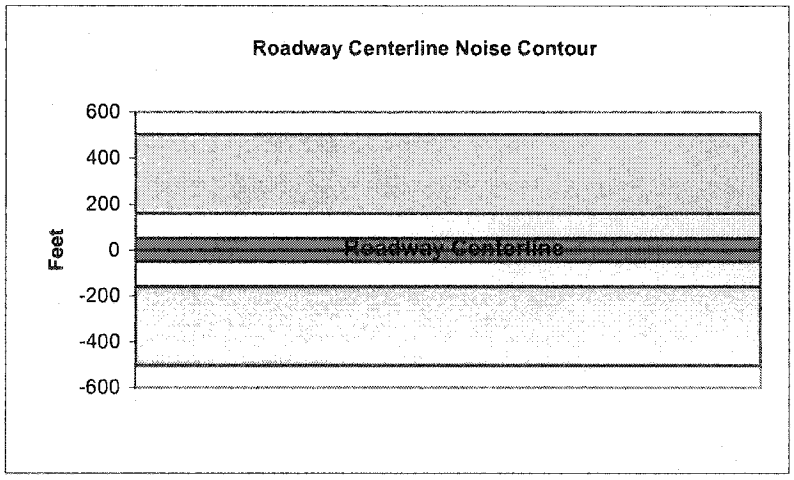
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.0	63.8	62.0	56.0	64.6	65.2
Medium Trucks:	63.3	55.3	48.9	47.3	55.8	56.0
Heavy Trucks:	67.8	55.9	46.8	48.1	57.6	57.7
Vehicle Noise:	**70.2**	**65.1**	**62.4**	**57.3**	**65.8**	**66.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	504
65 dBA	159
70 dBA	50
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	West of Buenaventura Boulevard		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16735
Peak Hour Traffic:	**1673.5**
Vehicle Speed:	45
Centerline Separation:	28.5

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

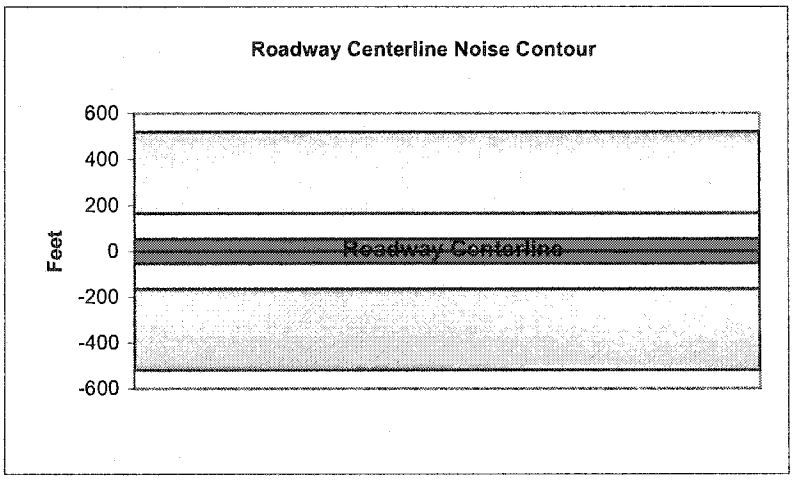
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.3	64.1	62.3	56.2	64.9	65.5
Medium Trucks:	63.6	55.5	49.1	47.6	56.1	56.3
Heavy Trucks:	68.1	56.2	47.1	48.3	57.9	58.0
Vehicle Noise:	**70.5**	**65.4**	**62.7**	**57.5**	**66.1**	**66.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	521
65 dBA	165
70 dBA	52
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	Between Buenaventura Boulevard and Pleasant Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	17803
Peak Hour Traffic:	1780.3
Vehicle Speed:	45
Centerline Separation:	24.5

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

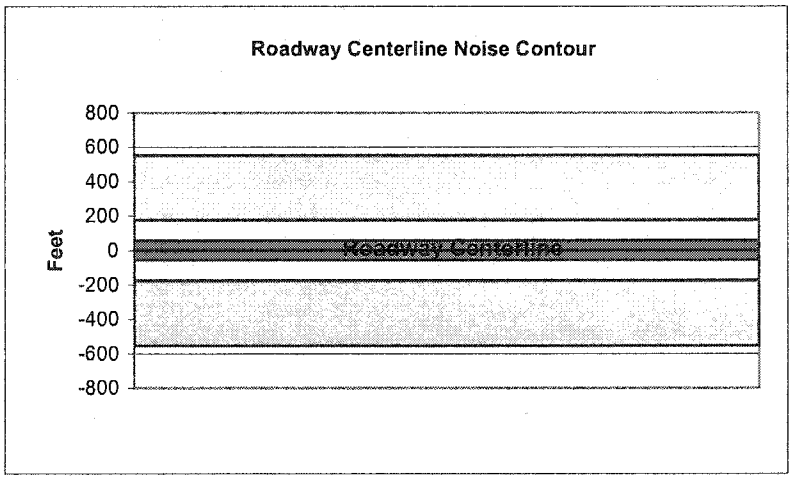
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.7	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	63.9	55.9	49.5	47.9	56.4	56.6
Heavy Trucks:	68.5	56.5	47.5	48.7	58.2	58.4
Vehicle Noise:	**70.8**	**65.7**	**63.0**	**57.9**	**66.5**	**67.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	554
65 dBA	175
70 dBA	55
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	Between Pleasant Street and Airpark Drive		

PROJECT DATA

Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	18735
Peak Hour Traffic:	1873.5
Vehicle Speed:	45
Centerline Separation:	30.4

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

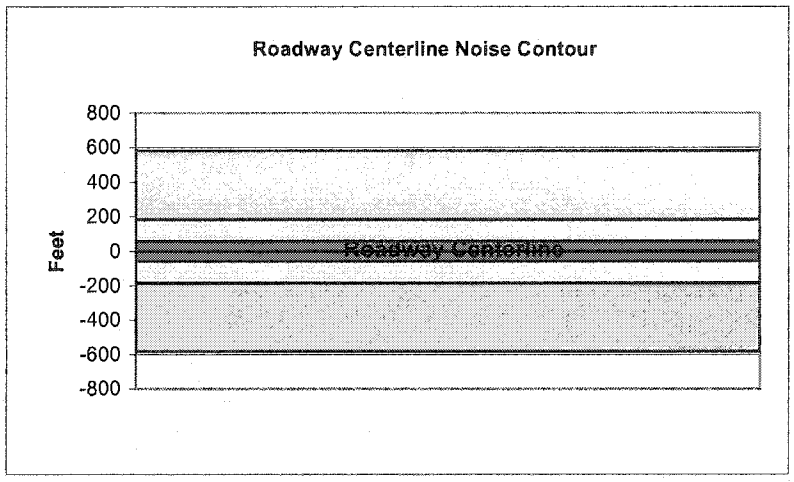
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.8	64.6	62.8	56.7	65.3	65.9
Medium Trucks:	64.1	56.0	49.6	48.0	56.5	56.8
Heavy Trucks:	68.6	56.6	47.6	48.8	58.3	58.5
Vehicle Noise:	**70.9**	**65.9**	**63.1**	**58.0**	**66.6**	**67.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	583
65 dBA	184
70 dBA	58
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Lower Springs Road		
Road Segment:	South of Eureka Way		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	860
Peak Hour Traffic:	86
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

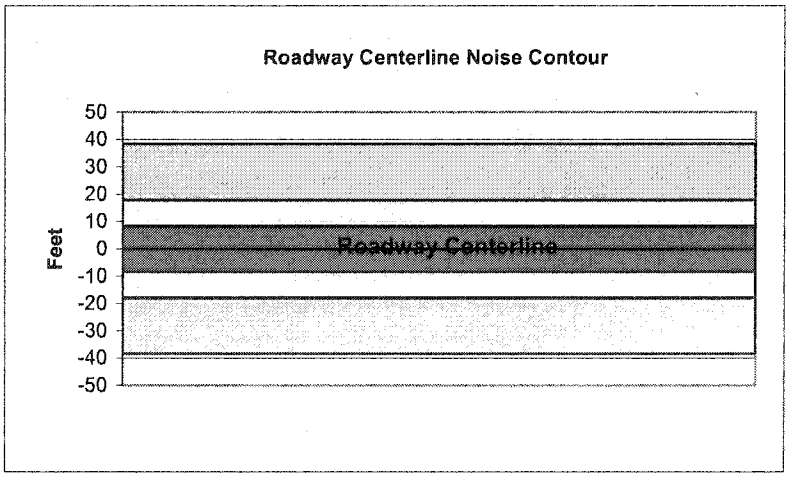
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.4	51.2	49.4	43.4	52.0	52.6
Medium Trucks:	49.6	41.5	35.1	33.5	42.0	42.3
Heavy Trucks:	53.5	41.6	32.5	33.8	43.0	43.1
Vehicle Noise:	**55.8**	**52.2**	**49.7**	**44.3**	**52.9**	**53.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	38
65 dBA	18
70 dBA	8
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	Between Placer Street and Lakeside Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	11183
Peak Hour Traffic:	1118.3
Vehicle Speed:	45
Centerline Separation:	11

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

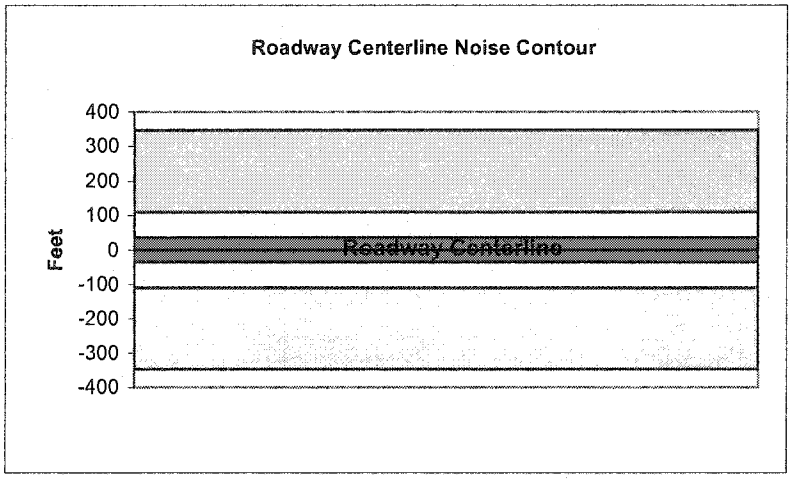
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.9	62.7	60.9	54.8	63.4	64.1
Medium Trucks:	62.2	54.1	47.7	46.1	54.6	54.9
Heavy Trucks:	66.7	54.7	45.7	46.9	56.5	56.6
Vehicle Noise:	**69.0**	**64.0**	**61.2**	**56.1**	**64.7**	**65.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	347
65 dBA	110
70 dBA	35
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	Between Lakeside Drive and Eureka Way (SR-299)		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12033
Peak Hour Traffic:	1203.3
Vehicle Speed:	45
Centerline Separation:	30.5

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

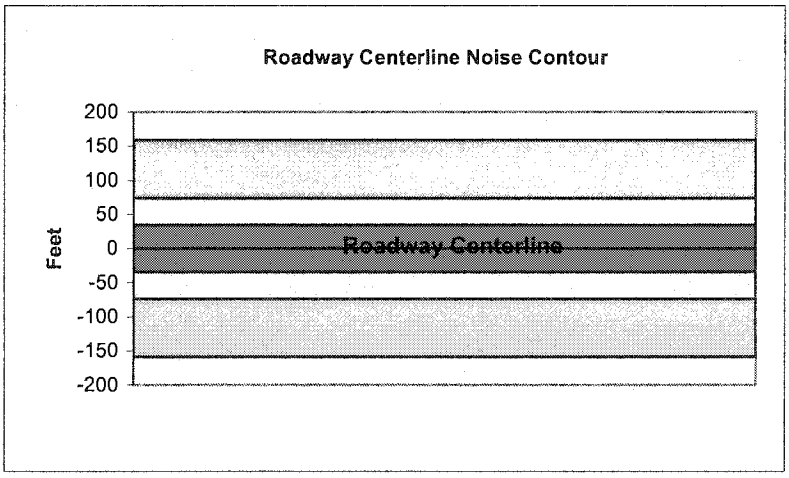
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.9	59.6	57.9	51.8	60.4	61.0
Medium Trucks:	59.1	51.1	44.7	43.1	51.6	51.8
Heavy Trucks:	63.7	51.7	42.7	43.9	53.4	53.6
Vehicle Noise:	**66.0**	**60.9**	**58.2**	**53.1**	**61.7**	**62.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	159
65 dBA	74
70 dBA	34
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	North of Sunflower Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2650
Peak Hour Traffic:	265
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

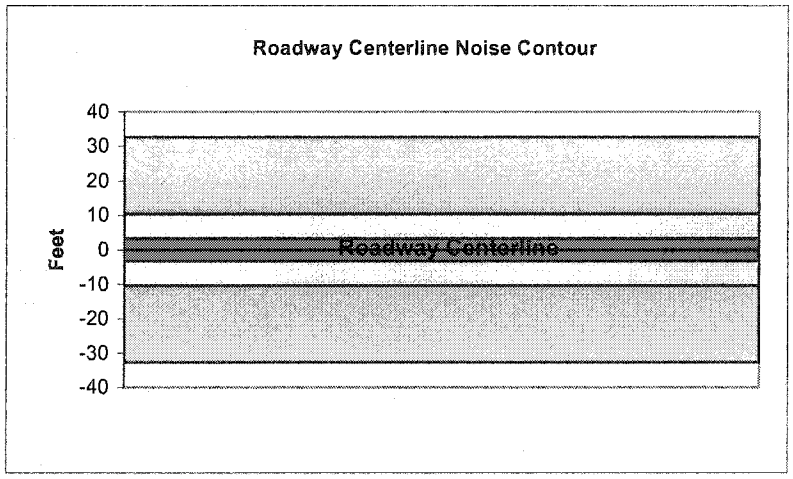
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.4	51.2	49.4	43.3	52.0	52.6
Medium Trucks:	53.0	45.0	38.6	37.0	45.5	45.7
Heavy Trucks:	58.7	46.7	37.7	38.9	49.0	49.2
Vehicle Noise:	**61.2**	**53.7**	**50.1**	**45.8**	**54.4**	**54.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	33
65 dBA	10
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Near Term Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	North of Sunflower Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	2120
Peak Hour Traffic:	212
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

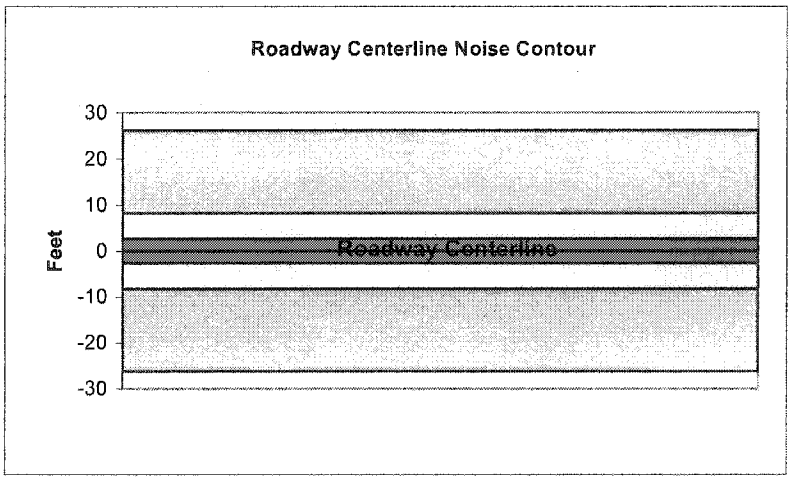
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.5	50.2	48.5	42.4	51.0	51.6
Medium Trucks:	52.1	44.0	37.6	36.0	44.5	44.8
Heavy Trucks:	57.7	45.8	36.7	37.9	48.1	48.2
Vehicle Noise:	**60.2**	**52.7**	**49.2**	**44.9**	**53.4**	**53.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	26
65 dBA	8
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	West of Lower Springs Road		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10040
Peak Hour Traffic:	1004
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: SOFT SITE

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

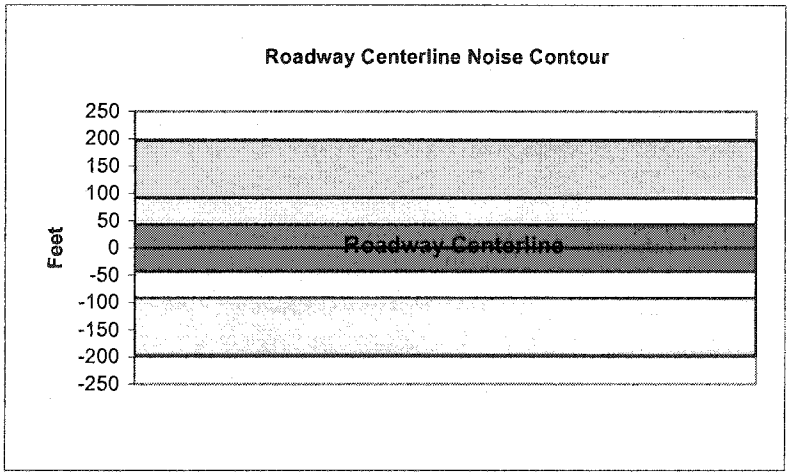
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.1	61.9	60.1	54.0	62.7	63.3
Medium Trucks:	60.2	52.2	45.8	44.2	52.7	52.9
Heavy Trucks:	64.2	52.3	43.2	44.4	53.7	53.8
Vehicle Noise:	**66.5**	**62.8**	**60.4**	**55.0**	**63.6**	**64.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	197
65 dBA	92
70 dBA	43
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Lower Springs Road and Cemetery Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12330
Peak Hour Traffic:	1233
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

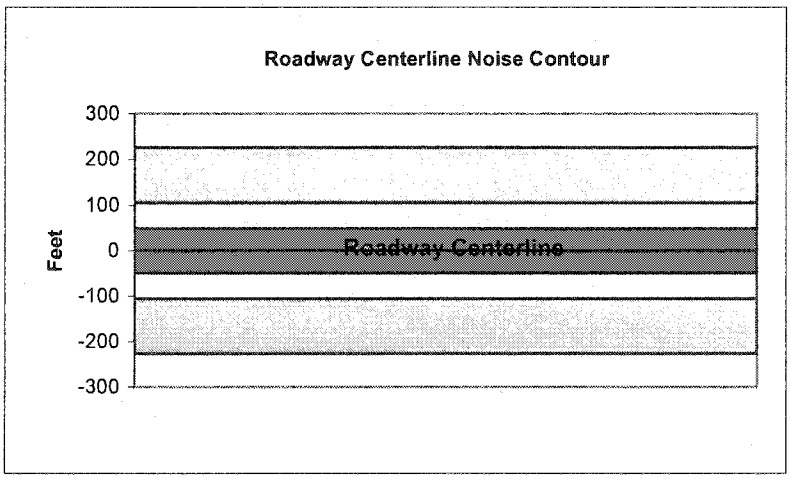
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.0	62.8	61.0	54.9	63.6	64.2
Medium Trucks:	61.1	53.1	46.7	45.1	53.6	53.8
Heavy Trucks:	65.1	53.2	44.1	45.3	54.6	54.7
Vehicle Noise:	**67.4**	**63.7**	**61.3**	**55.8**	**64.5**	**65.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	226
65 dBA	105
70 dBA	49
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Cemetery Drive and Ridge Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12330
Peak Hour Traffic:	1233
Vehicle Speed:	45
Centerline Separation:	30

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

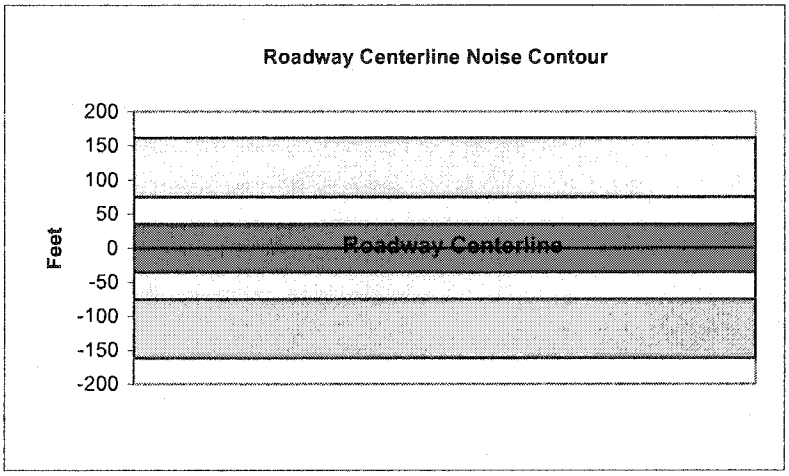
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.0	59.8	58.0	51.9	60.5	61.1
Medium Trucks:	59.3	51.2	44.8	43.2	51.7	52.0
Heavy Trucks:	63.8	51.8	42.8	44.0	53.6	53.7
Vehicle Noise:	**66.1**	**61.1**	**58.3**	**53.2**	**61.8**	**62.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	162
65 dBA	75
70 dBA	35
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Ridge Drive and Buenaventura Boulevard		

PROJECT DATA

Centerline Dist to Barrier:	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	5.5		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	12330
Peak Hour Traffic:	1233
Vehicle Speed:	45
Centerline Separation:	39.7

NOISE INPUTS

Site conditions: SOFT SITE

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

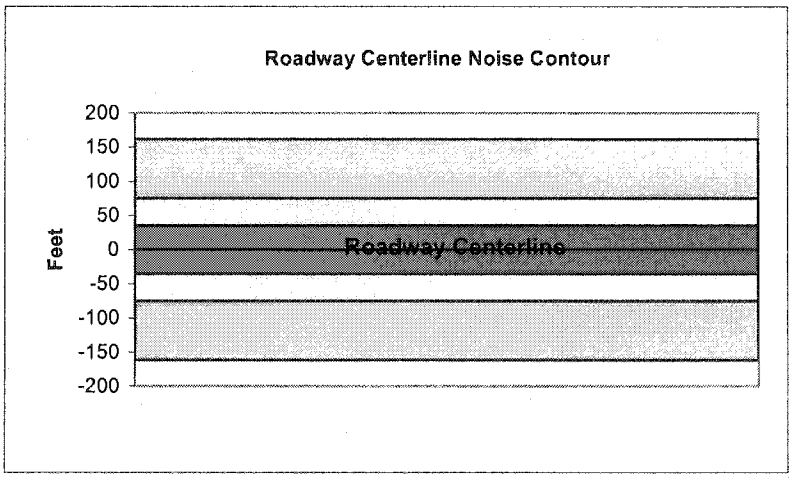
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	50.7	59.5	57.7	51.7	60.3	60.9
Medium Trucks:	59.0	51.0	44.6	43.0	51.5	51.7
Heavy Trucks:	63.5	51.6	42.6	43.8	53.3	53.4
Vehicle Noise:	**65.9**	**60.8**	**58.1**	**53.0**	**61.6**	**62.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	162
65 dBA	75
70 dBA	35
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Buenaventura Boulevard and Sunset Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	20008
Peak Hour Traffic:	2000.8
Vehicle Speed:	45
Centerline Separation:	36.1

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

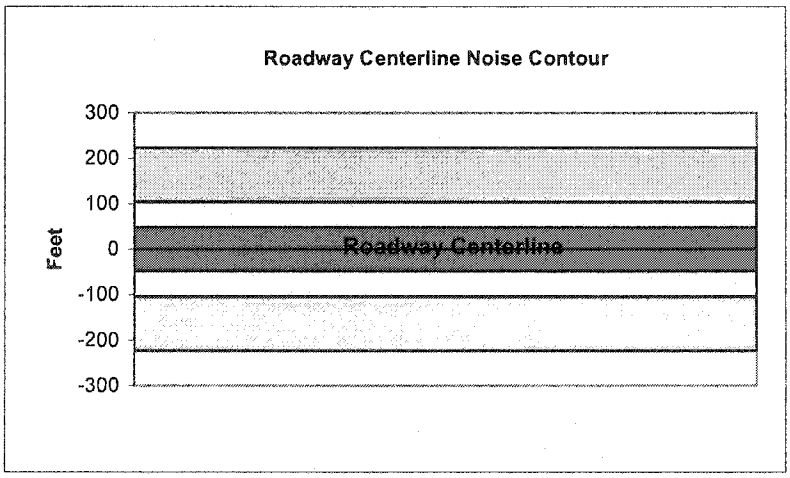
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.9	61.7	59.9	53.8	62.5	63.1
Medium Trucks:	61.2	53.1	46.8	45.2	53.7	53.9
Heavy Trucks:	65.7	53.8	44.7	46.0	55.5	55.6
Vehicle Noise:	**68.1**	**63.0**	**60.3**	**55.1**	**63.7**	**64.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	223
65 dBA	104
70 dBA	48
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Sunset Drive and Overhill Drive		

PROJECT DATA

Centerline Dist to Barrier:	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	5.5		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	18598
Peak Hour Traffic:	1859.8
Vehicle Speed:	45
Centerline Separation:	38.3

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

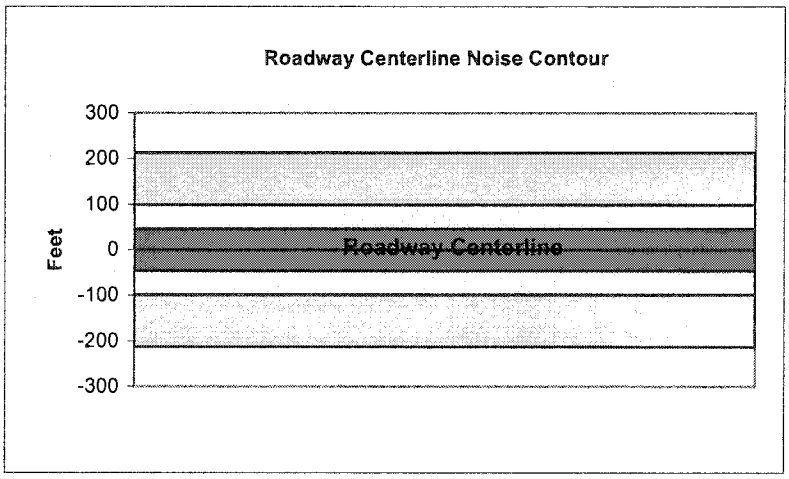
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.6	61.3	59.6	53.5	62.1	62.7
Medium Trucks:	60.8	52.8	46.4	44.8	53.3	53.5
Heavy Trucks:	65.4	53.4	44.4	45.6	55.1	55.3
Vehicle Noise:	**67.7**	**62.6**	**59.9**	**54.8**	**63.4**	**63.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	213
65 dBA	99
70 dBA	46
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Overhill Drive and Almond Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16843
Peak Hour Traffic:	**1684.3**
Vehicle Speed:	45
Centerline Separation:	37.2

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

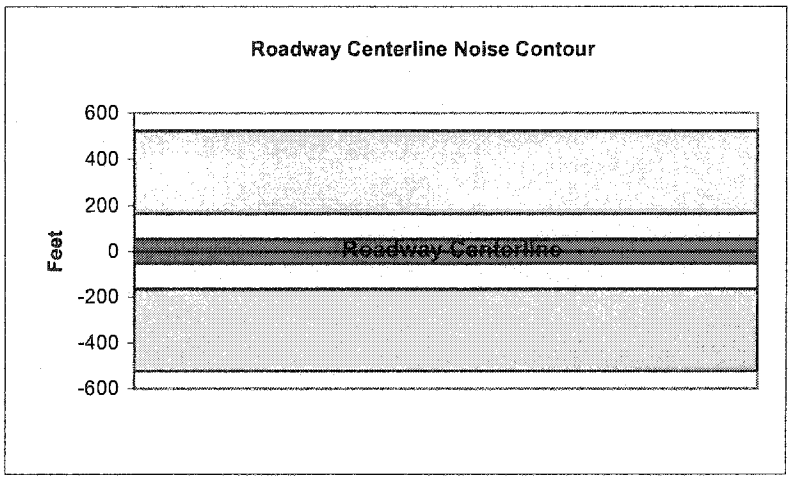
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.2	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	63.5	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	68.0	56.1	47.0	48.2	57.8	57.9
Vehicle Noise:	**70.3**	**65.3**	**62.6**	**57.4**	**66.0**	**66.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	523
65 dBA	165
70 dBA	52
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	West of Buenaventura Boulevard		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	18080
Peak Hour Traffic:	1808
Vehicle Speed:	45
Centerline Separation:	28.5

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

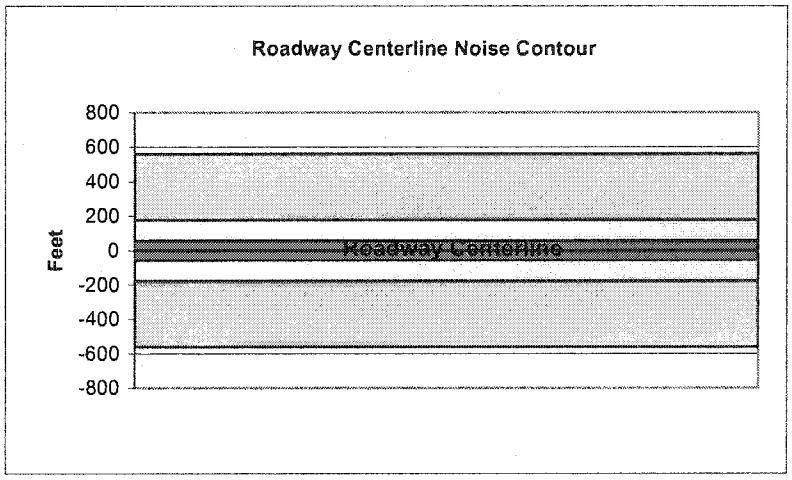
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.7	64.4	62.6	56.6	65.2	65.8
Medium Trucks:	63.9	55.9	49.5	47.9	56.4	56.6
Heavy Trucks:	68.5	56.5	47.5	48.7	58.2	58.4
Vehicle Noise:	**70.8**	**65.7**	**63.0**	**57.9**	**66.5**	**67.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	562
65 dBA	178
70 dBA	56
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	Between Buenaventura Boulevard and Pleasant Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	20000
Peak Hour Traffic:	2000
Vehicle Speed:	45
Centerline Separation:	24.5

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

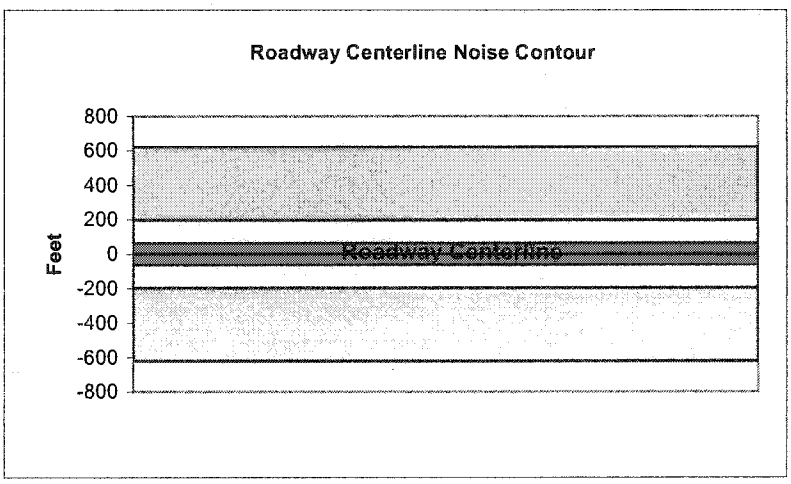
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.2	64.9	63.2	57.1	65.7	66.3
Medium Trucks:	64.4	56.4	50.0	48.4	56.9	57.1
Heavy Trucks:	69.0	57.0	48.0	49.2	58.7	58.9
Vehicle Noise:	**71.3**	**66.2**	**63.5**	**58.4**	**67.0**	**67.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	622
65 dBA	197
70 dBA	62
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	Between Pleasant Street and Airpark Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	20625
Peak Hour Traffic:	**2062.5**
Vehicle Speed:	45
Centerline Separation:	30.4

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

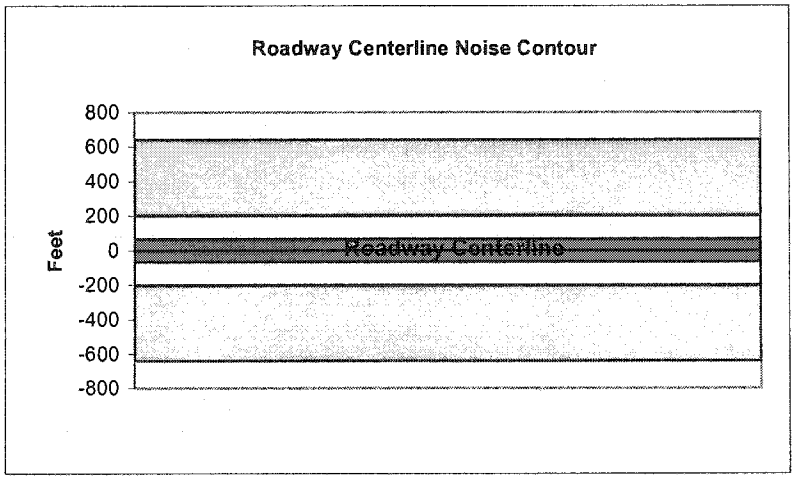
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.2	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	64.5	56.4	50.0	48.4	56.9	57.2
Heavy Trucks:	69.0	57.1	48.0	49.2	58.8	58.9
Vehicle Noise:	**71.3**	**66.3**	**63.6**	**58.4**	**67.0**	**67.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	641
65 dBA	203
70 dBA	64
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Lower Springs Road		
Road Segment:	South of Eureka Way		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	870
Peak Hour Traffic:	87
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

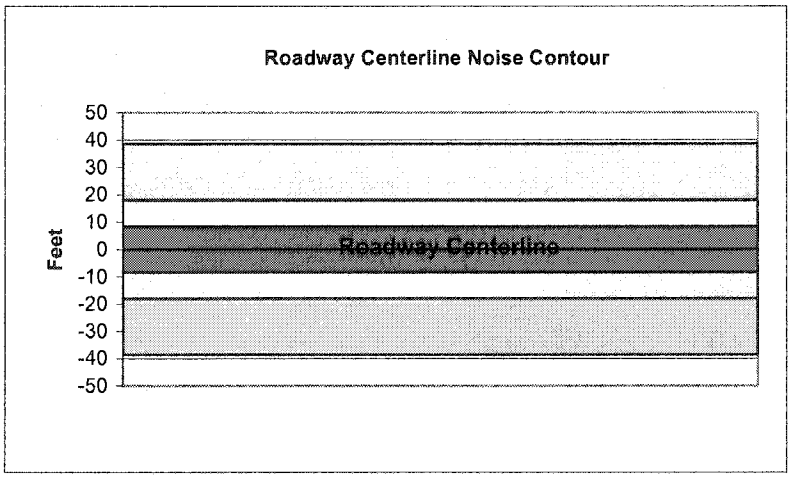
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.5	51.3	49.5	43.4	52.1	52.7
Medium Trucks:	49.6	41.6	35.2	33.6	42.1	42.3
Heavy Trucks:	53.6	41.6	32.6	33.8	43.1	43.2
Vehicle Noise:	**55.9**	**52.2**	**49.7**	**44.3**	**52.9**	**53.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	39
65 dBA	18
70 dBA	8
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	Between Placer Street and Lakeside Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14080
Peak Hour Traffic:	1408
Vehicle Speed:	45
Centerline Separation:	11

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

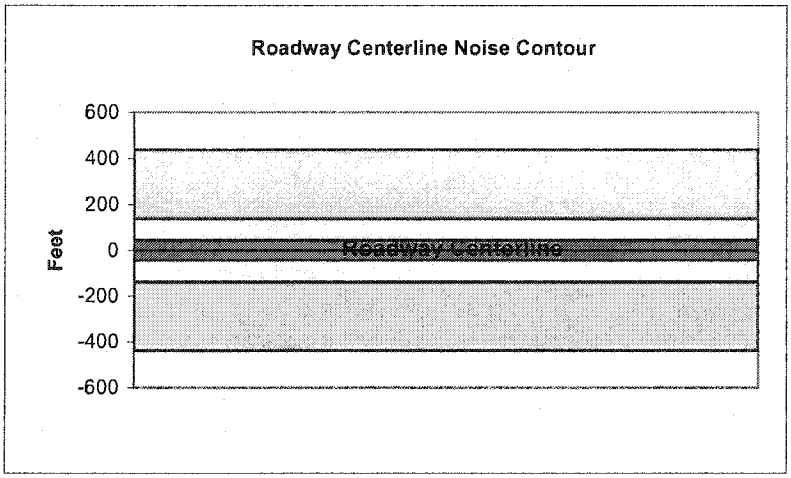
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.9	63.7	61.9	55.8	64.4	65.1
Medium Trucks:	63.2	55.1	48.7	47.1	55.6	55.9
Heavy Trucks:	67.7	55.7	46.7	47.9	57.5	57.6
Vehicle Noise:	**70.0**	**65.0**	**62.2**	**57.1**	**65.7**	**66.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	438
65 dBA	139
70 dBA	44
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	Between Lakeside Drive and Eureka Way (SR-299)		

PROJECT DATA

Centerline Dist to Barrier:	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	5.5		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	15613
Peak Hour Traffic:	1561.3
Vehicle Speed:	45
Centerline Separation:	30.5

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

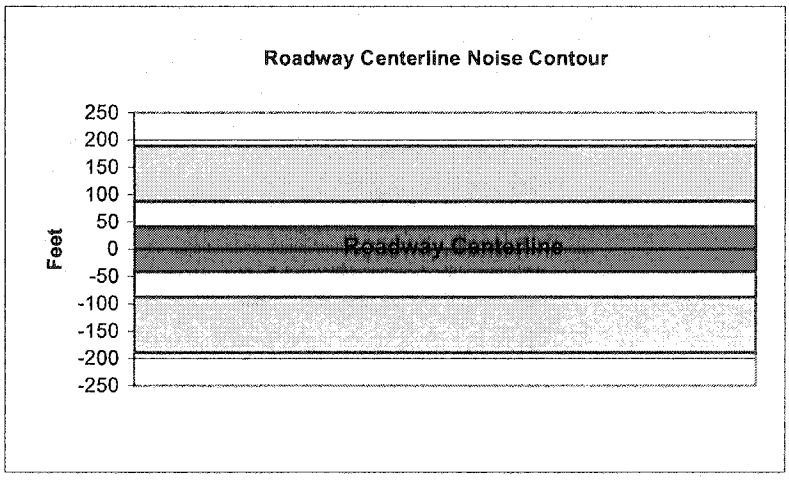
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.0	60.8	59.0	52.9	61.6	62.2
Medium Trucks:	60.3	52.2	45.8	44.3	52.7	53.0
Heavy Trucks:	64.8	52.9	43.8	45.0	54.6	54.7
Vehicle Noise:	**67.1**	**62.1**	**59.4**	**54.2**	**62.8**	**63.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	189
65 dBA	88
70 dBA	41
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	North of Sunflower Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	8645
Peak Hour Traffic:	864.5
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

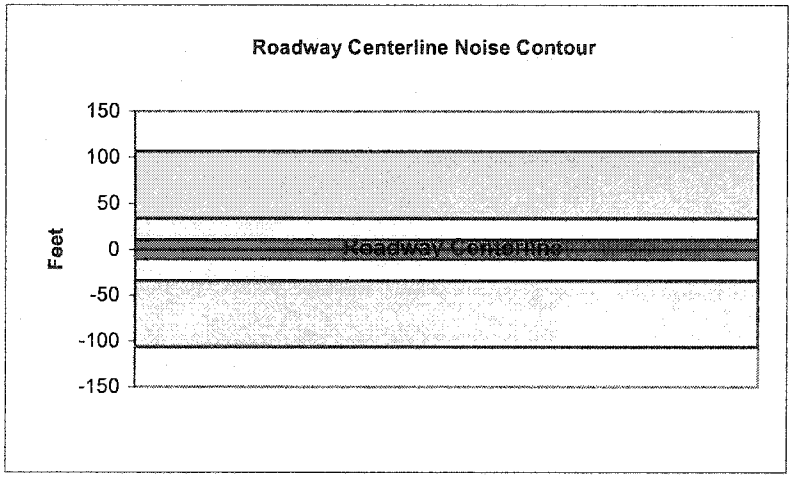
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.6	56.3	54.6	48.5	57.1	57.7
Medium Trucks:	58.2	50.1	43.7	42.1	50.6	50.9
Heavy Trucks:	63.8	51.9	42.8	44.0	54.2	54.3
Vehicle Noise:	**66.3**	**58.8**	**55.3**	**51.0**	**59.5**	**59.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	107
65 dBA	34
70 dBA	11
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	West of Lower Springs Road		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10340
Peak Hour Traffic:	1034
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

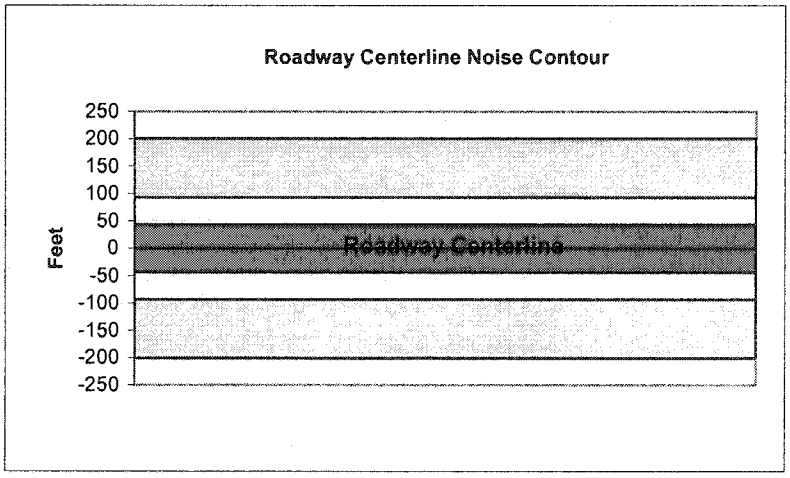
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.2	62.0	60.2	54.2	62.8	63.4
Medium Trucks:	60.4	52.3	45.9	44.3	52.8	53.1
Heavy Trucks:	64.3	52.4	43.3	44.6	53.8	53.9
Vehicle Noise:	**66.6**	**63.0**	**60.5**	**55.1**	**63.7**	**64.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	201
65 dBA	93
70 dBA	43
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Lower Springs Road and Cemetery Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14715
Peak Hour Traffic:	1471.5
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

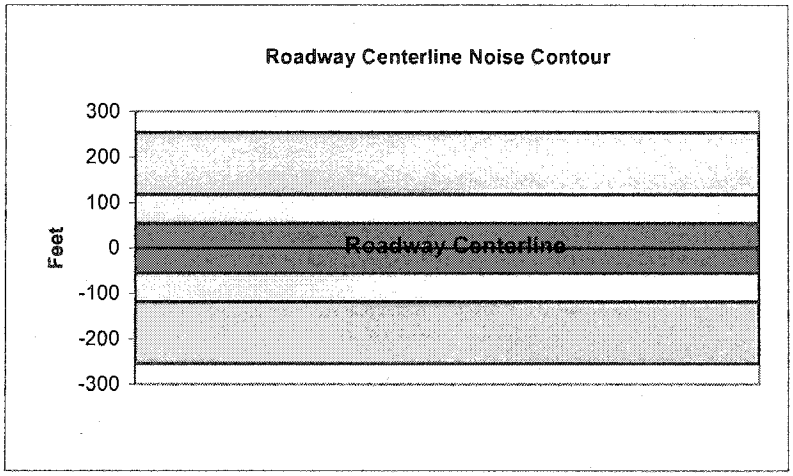
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.8	63.6	61.8	55.7	64.3	64.9
Medium Trucks:	61.9	53.8	47.5	45.9	54.4	54.6
Heavy Trucks:	65.9	53.9	44.9	46.1	55.3	55.5
Vehicle Noise:	**68.2**	**64.5**	**62.0**	**56.6**	**65.2**	**65.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	255
65 dBA	118
70 dBA	55
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Cemetery Drive and Ridge Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14715
Peak Hour Traffic:	1471.5
Vehicle Speed:	45
Centerline Separation:	30

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

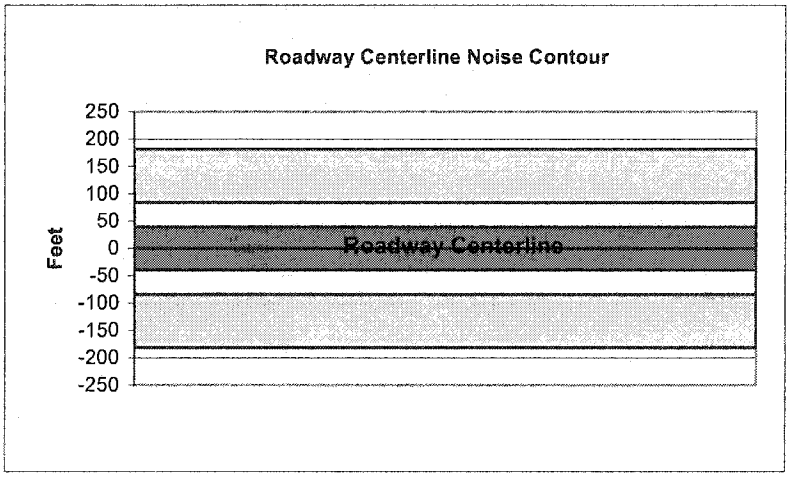
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.8	60.5	58.7	52.7	61.3	61.9
Medium Trucks:	60.0	52.0	45.6	44.0	52.5	52.7
Heavy Trucks:	64.5	52.6	43.6	44.8	54.3	54.4
Vehicle Noise:	**66.9**	**61.8**	**59.1**	**54.0**	**62.6**	**63.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	182
65 dBA	85
70 dBA	39
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Ridge Drive and Buenaventura Boulevard		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	14715
Peak Hour Traffic:	1471.5
Vehicle Speed:	45
Centerline Separation:	39.7

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

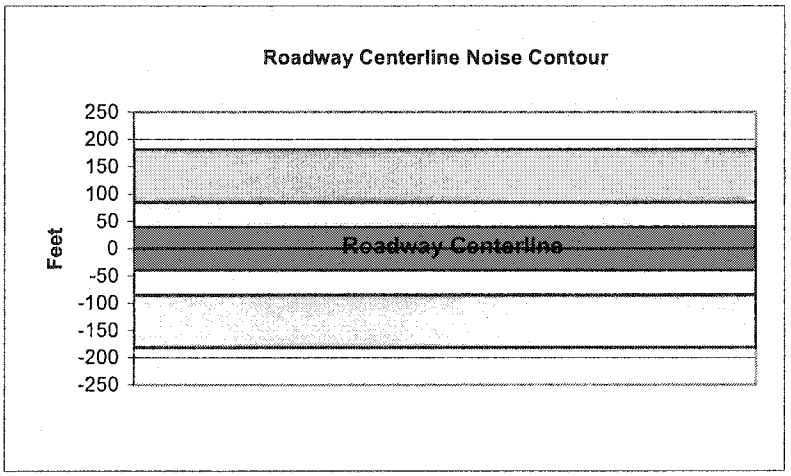
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.5	60.3	58.5	52.4	61.1	61.7
Medium Trucks:	59.8	51.7	45.3	43.8	52.3	52.5
Heavy Trucks:	64.3	52.4	43.3	44.5	54.1	54.2
Vehicle Noise:	**66.7**	**61.6**	**58.9**	**53.7**	**62.3**	**62.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	182
65 dBA	85
70 dBA	39
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Buenaventura Boulevard and Sunset Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	22023
Peak Hour Traffic:	2202.3
Vehicle Speed:	45
Centerline Separation:	36.1

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

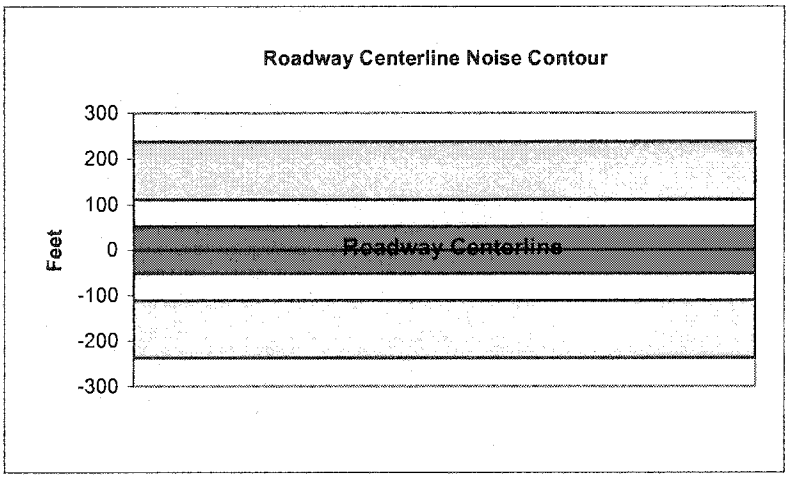
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.4	62.1	60.3	54.3	62.9	63.5
Medium Trucks:	61.6	53.6	47.2	45.6	54.1	54.3
Heavy Trucks:	66.1	54.2	45.2	46.4	55.9	56.0
Vehicle Noise:	**68.5**	**63.4**	**60.7**	**55.6**	**64.2**	**64.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	238
65 dBA	111
70 dBA	51
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Sunset Drive and Overhill Drive		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	20540
Peak Hour Traffic:	2054
Vehicle Speed:	45
Centerline Separation:	38.3

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

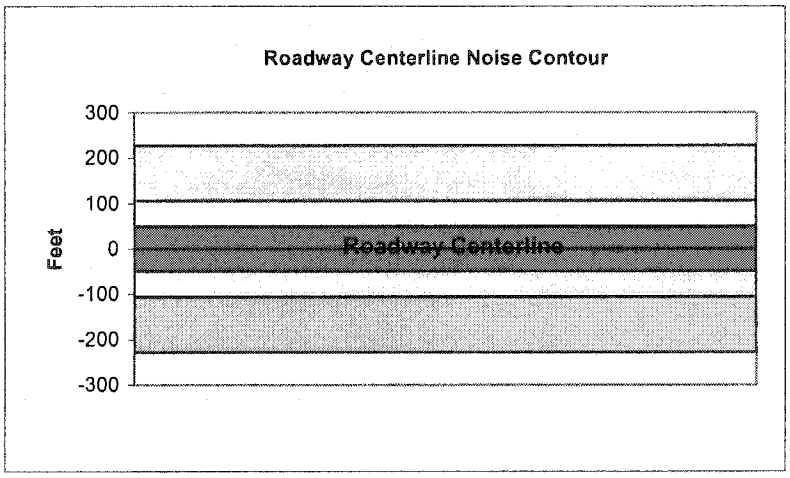
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.0	61.8	60.0	53.9	62.6	63.2
Medium Trucks:	61.3	53.2	46.8	45.3	53.7	54.0
Heavy Trucks:	65.8	53.9	44.8	46.0	55.6	55.7
Vehicle Noise:	**68.1**	**63.1**	**60.4**	**55.2**	**63.8**	**64.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	228
65 dBA	106
70 dBA	49
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	Between Overhill Drive and Almond Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	18708
Peak Hour Traffic:	**1870.8**
Vehicle Speed:	45
Centerline Separation:	37.2

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

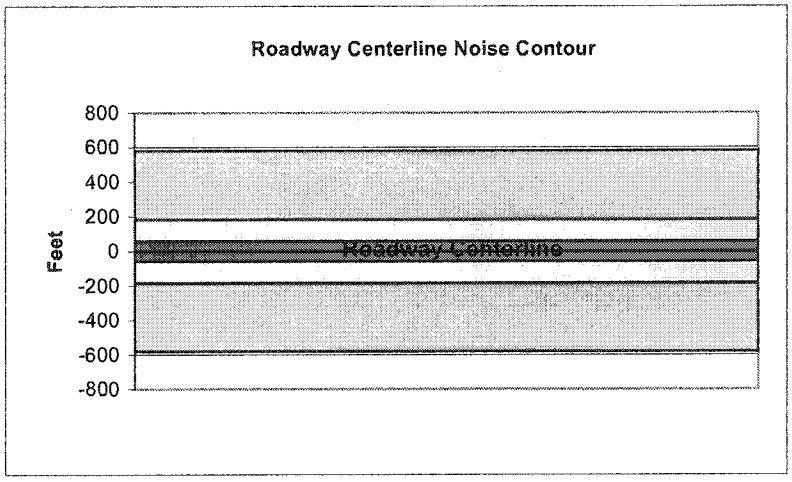
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.7	64.4	62.7	56.6	65.2	65.8
Medium Trucks:	63.9	55.9	49.5	47.9	56.4	56.6
Heavy Trucks:	68.5	56.5	47.5	48.7	58.2	58.4
Vehicle Noise:	**70.8**	**65.7**	**63.0**	**57.9**	**66.5**	**67.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	582
65 dBA	184
70 dBA	58
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	West of Buenaventura Boulevard		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	18155
Peak Hour Traffic:	**1815.5**
Vehicle Speed:	45
Centerline Separation:	28.5

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

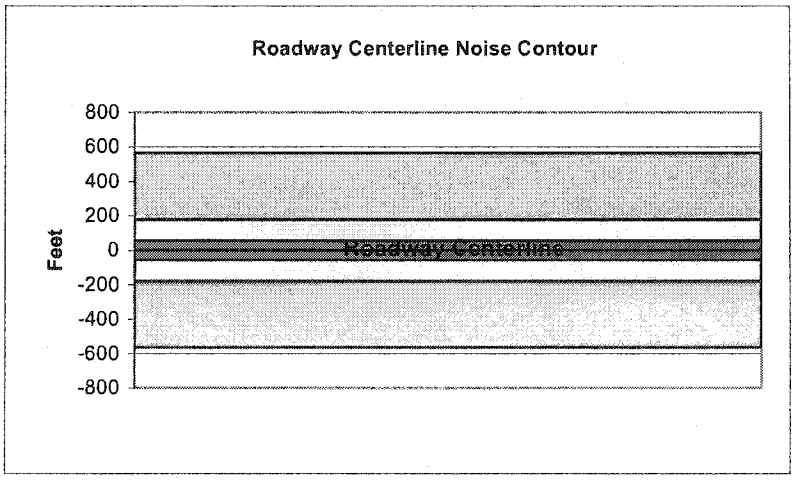
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.7	64.5	62.7	56.6	65.2	65.8
Medium Trucks:	64.0	55.9	49.5	47.9	56.4	56.6
Heavy Trucks:	68.5	56.5	47.5	48.7	58.2	58.4
Vehicle Noise:	**70.8**	**65.8**	**63.0**	**57.9**	**66.5**	**67.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	564
65 dBA	178
70 dBA	56
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	Between Buenaventura Boulevard and Pleasant Street		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	20648
Peak Hour Traffic:	**2064.8**
Vehicle Speed:	45
Centerline Separation:	24.5

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

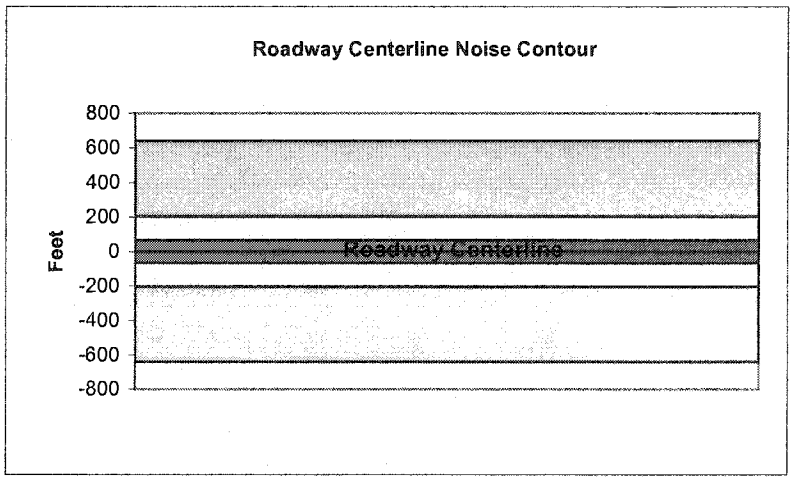
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.3	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	64.6	56.5	50.1	48.6	57.0	57.3
Heavy Trucks:	69.1	57.2	48.1	49.3	58.9	59.0
Vehicle Noise:	**71.4**	**66.4**	**63.7**	**58.5**	**67.1**	**67.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	642
65 dBA	203
70 dBA	64
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Placer Street		
Road Segment:	Between Pleasant Street and Airpark Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	21235
Peak Hour Traffic:	2123.5
Vehicle Speed:	45
Centerline Separation:	30.4

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

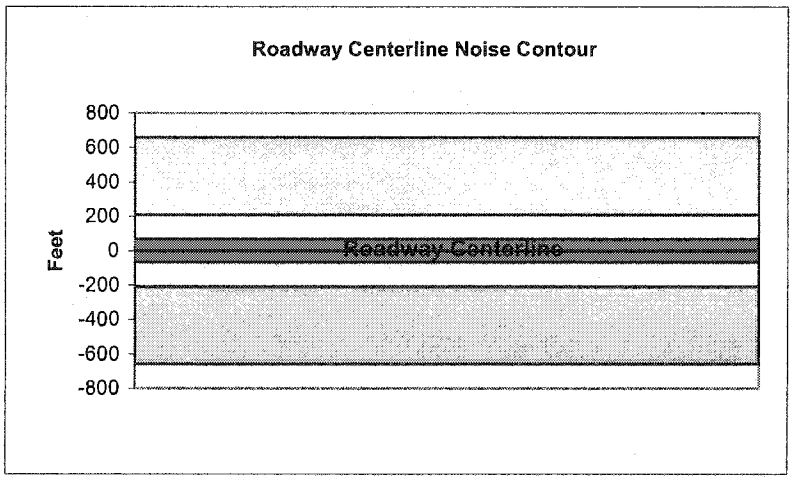
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.3	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	64.6	56.5	50.1	48.6	57.1	57.3
Heavy Trucks:	69.1	57.2	48.1	49.3	58.9	59.0
Vehicle Noise:	**71.5**	**66.4**	**63.7**	**58.5**	**67.1**	**67.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	660
65 dBA	209
70 dBA	66
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Lower Springs Road		
Road Segment:	South of Eureka Way		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	870
Peak Hour Traffic:	87
Vehicle Speed:	55
Centerline Separation:	11

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

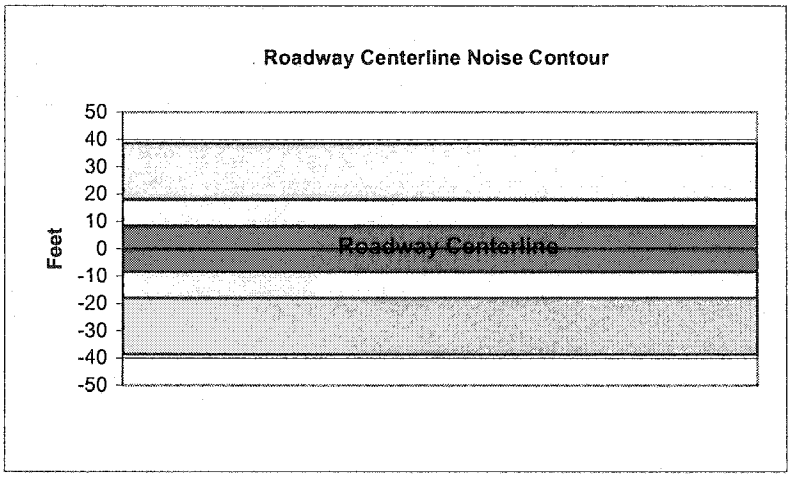
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.5	51.3	49.5	43.4	52.1	52.7
Medium Trucks:	49.6	41.6	35.2	33.6	42.1	42.3
Heavy Trucks:	53.6	41.6	32.6	33.8	43.1	43.2
Vehicle Noise:	**55.9**	**52.2**	**49.7**	**44.3**	**52.9**	**53.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	39
65 dBA	18
70 dBA	8
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	Between Placer Street and Lakeside Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	15165
Peak Hour Traffic:	1516.5
Vehicle Speed:	45
Centerline Separation:	11

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

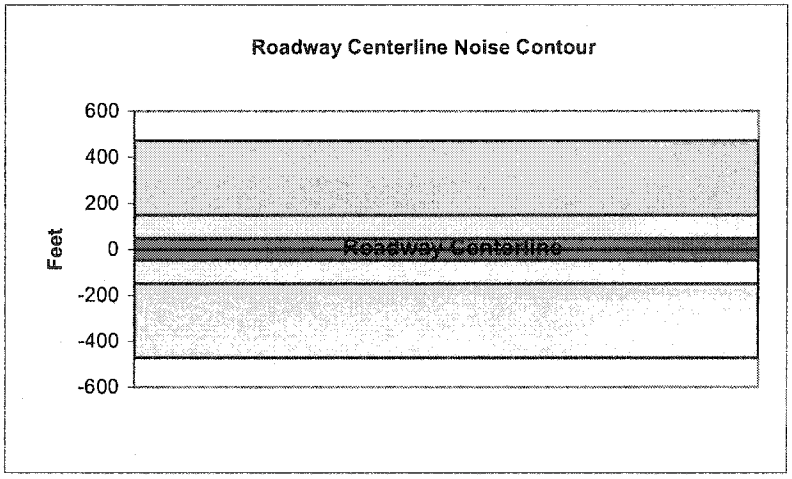
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.2	64.0	62.2	56.1	64.8	65.4
Medium Trucks:	63.5	55.4	49.0	47.5	56.0	56.2
Heavy Trucks:	68.0	56.1	47.0	48.2	57.8	57.9
Vehicle Noise:	**70.3**	**65.3**	**62.6**	**57.4**	**66.0**	**66.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	472
65 dBA	149
70 dBA	47
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	Between Lakeside Drive and Eureka Way (SR-299)		

PROJECT DATA

Centerline Dist to Barrier:	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	5.5		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	16810
Peak Hour Traffic:	1681
Vehicle Speed:	45
Centerline Separation:	30.5

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

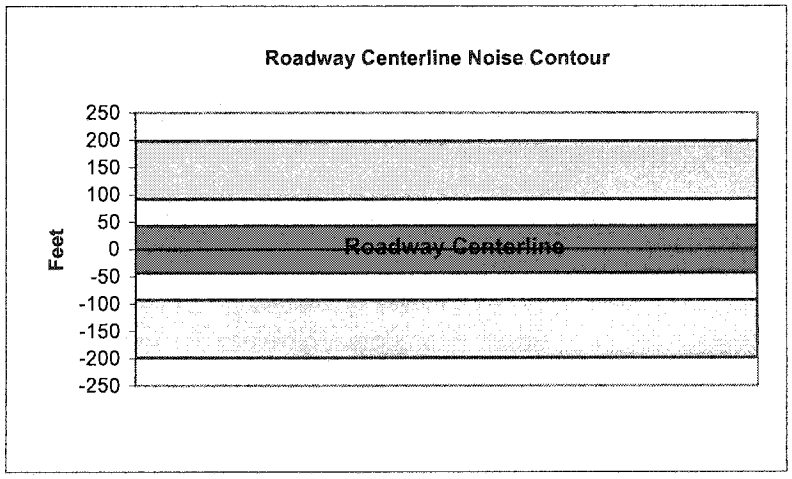
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.3	61.1	59.3	53.2	61.9	62.5
Medium Trucks:	60.6	52.5	46.1	44.6	53.1	53.3
Heavy Trucks:	65.1	53.2	44.1	45.3	54.9	55.0
Vehicle Noise:	**67.5**	**62.4**	**59.7**	**54.5**	**63.1**	**63.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	199
65 dBA	92
70 dBA	43
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	North of Sunflower Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9080
Peak Hour Traffic:	908
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

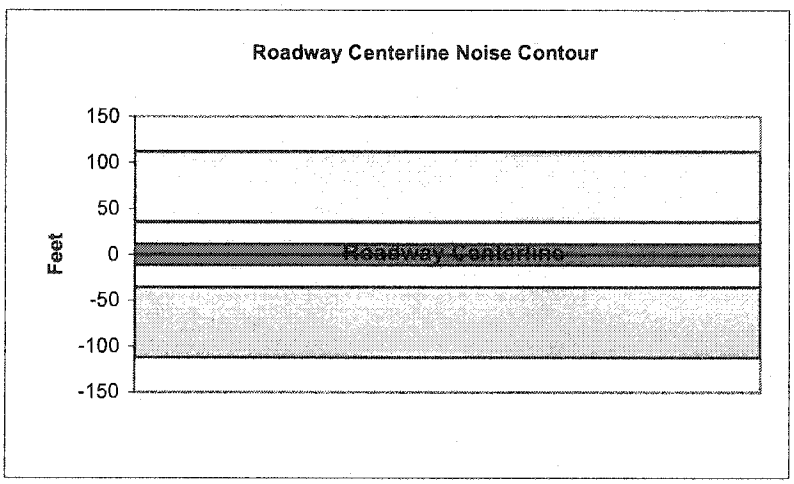
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.8	56.6	54.8	48.7	57.3	57.9
Medium Trucks:	58.4	50.3	43.9	42.4	50.8	51.1
Heavy Trucks:	64.0	52.1	43.0	44.3	54.4	54.5
Vehicle Noise:	**66.6**	**59.0**	**55.5**	**51.2**	**59.7**	**60.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	112
65 dBA	35
70 dBA	11
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	North of Sunflower Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1400
Peak Hour Traffic:	140
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

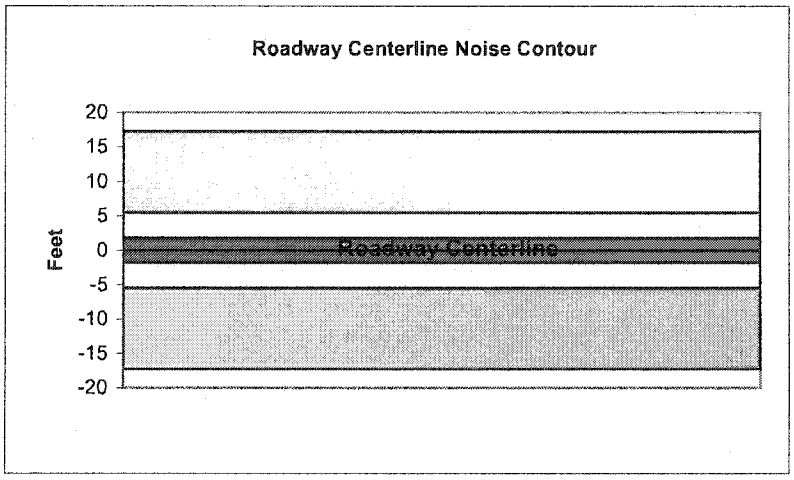
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.7	48.4	46.7	40.6	49.2	49.8
Medium Trucks:	50.3	42.2	35.8	34.2	42.7	43.0
Heavy Trucks:	55.9	44.0	34.9	36.1	46.3	46.4
Vehicle Noise:	**58.4**	**50.9**	**47.4**	**43.0**	**51.6**	**52.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	17
65 dBA	5
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Eureka Way (SR-299)		
Road Segment:	West of Lower Springs Road		

PROJECT DATA

Centerline Dist to Barrier:	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	5.5
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	10340
Peak Hour Traffic:	1034
Vehicle Speed:	55
Centerline Separation:	21

NOISE INPUTS

Site conditions: **SOFT SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

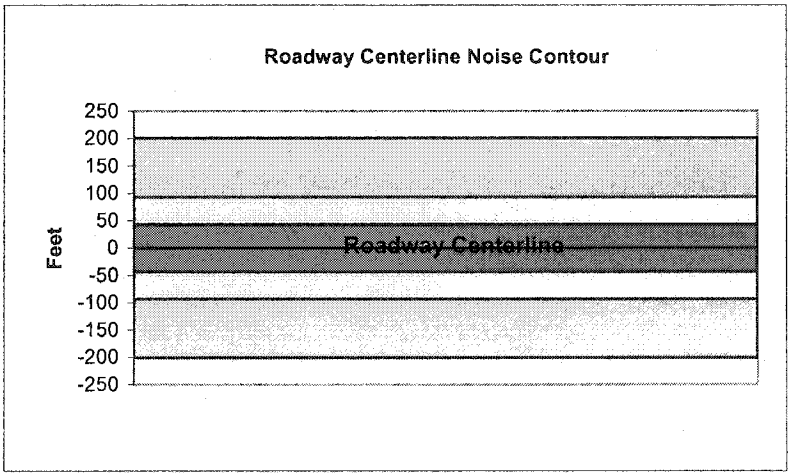
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.0	61.7	60.0	53.9	62.5	63.1
Medium Trucks:	60.1	52.0	45.6	44.1	52.6	52.8
Heavy Trucks:	64.1	52.1	43.1	44.3	53.5	53.7
Vehicle Noise:	**66.4**	**62.7**	**60.2**	**54.8**	**63.4**	**63.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	201
65 dBA	93
70 dBA	43
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	North of Sunflower Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	9080
Peak Hour Traffic:	908
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

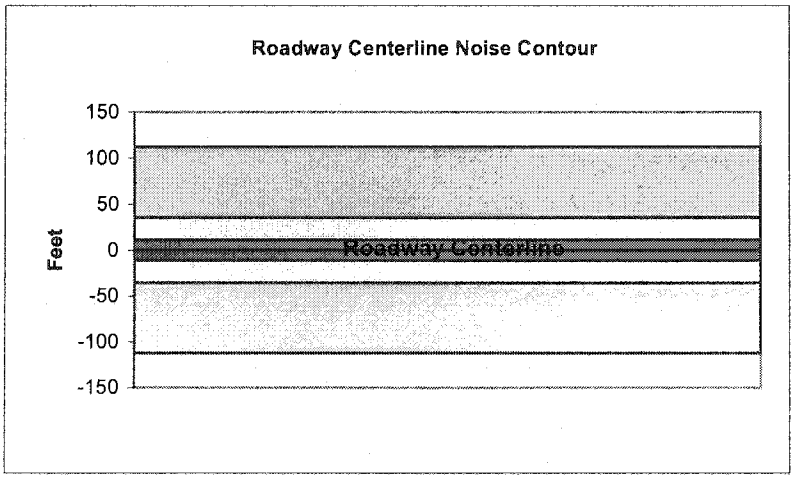
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	47.8	56.6	54.8	48.7	57.3	57.9
Medium Trucks:	58.4	50.3	43.9	42.4	50.8	51.1
Heavy Trucks:	64.0	52.1	43.0	44.3	54.4	54.5
Vehicle Noise:	**66.6**	**59.0**	**55.5**	**51.2**	**59.7**	**60.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	112
65 dBA	35
70 dBA	11
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Salt Creek	Scenario:	Future Plus Project
Analyst:	Kelly Chiene	Job #:	60-100416
Roadway:	Buenaventura Boulevard		
Road Segment:	North of Sunflower Drive		

PROJECT DATA

Centerline Dist to Barrier	0
Barrier (0=wall, 1= berm):	0
Receiver Barrier Dist:	0
Centerline Dist. To Observer:	100
Barrier Near Lane CL Dist:	0
Barrier Far lane CL Dist:	0
Pad Elevation:	0.5
Road Elevation:	0
Observer Height (above grade):	0
Barrier Height:	0
Rt View: 90	Lft View: -90

NOISE SOURCE ELEVATIONS (Feet)

Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA

Road Grade:	0
Average Daily Traffic:	1400
Peak Hour Traffic:	140
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

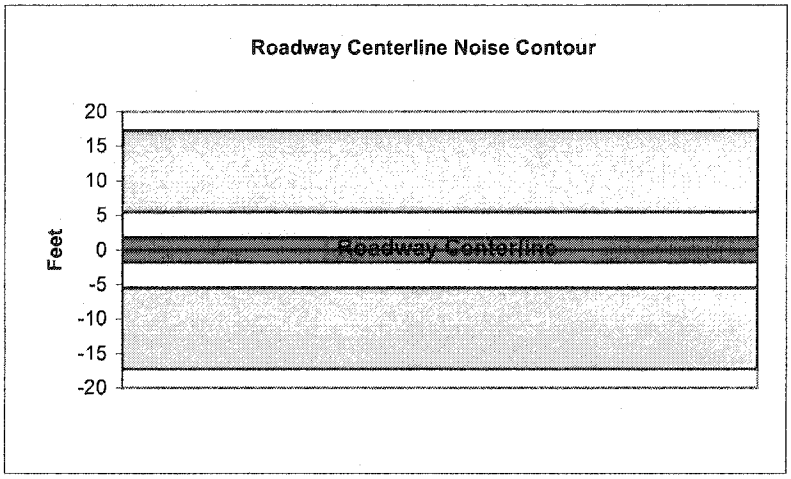
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.7	48.4	46.7	40.6	49.2	49.8
Medium Trucks:	50.3	42.2	35.8	34.2	42.7	43.0
Heavy Trucks:	55.9	44.0	34.9	36.1	46.3	46.4
Vehicle Noise:	**58.4**	**50.9**	**47.4**	**43.0**	**51.6**	**52.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	17
65 dBA	5
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



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