

# ***APPENDICES***

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# ***APPENDIX A***

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*NOTICE OF PREPARATION*

California Home

Wednesday, August 19, 2009



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## Pinoleville Pomo Nation Gaming Facility and Hotel Project

**SCH Number:** 2009072008

**Type:** NOP - Notice of Preparation

### Project Description

NOTE: NOP for Tribal EIR The Pinoleville Pomo Nation of California proposes to develop, construct and operate a casino on Tribal lands located in Mendocino County, CA, just north of the city limits of Ukiah, California. The Proposed gaming facility footprint will span approximately 90,000 sf. The gaming floor will be approximately 28,500 sf and designated to accommodate up to 900 slot machines and 20 gaming tables. Back of the house areas will comprise approximately 45,000 sf. Parking facilities shall be comprised of surface parking.

### Project Lead Agency

Pinoleville Pomo Nation

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### Contact Information

#### Primary Contact:

Leona Williams  
Pinoleville Pomo Nation  
707 463-1454  
500 B Pinoleville Drive  
Ukiah, CA 95482

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### Project Location

County: Mendocino  
City: Ukiah  
Region:  
Cross Streets: 2150 North State Street at Hollow Tree Road  
Latitude/Longitude: 39° 10' 40.7" / 123° 12' 37.0" [Map](#)  
Parcel No: 169-211-26-00 & 169-221-27-00  
Township: 15N  
Range: 12W  
Section: 7  
Base: Ukiah  
Other Location Info: City/Nearest Community: Pinoleville Pomo Nation Rancheria

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### Proximity To

Highways: Hwy 101  
Airports:  
Railways:  
Waterways: Ackerman Creek  
Schools: Pinoleville Head Start  
Land Use: Commercial/Industrial

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### Development Type

Recreational

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### Local Action

Redevelopment

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### Project Issues

Aesthetic/Visual, Agricultural Land, Air Quality, Biological Resources, Minerals, Noise, Population/Housing Balance, Public Services, Recreation/Parks, Toxic/Hazardous, Landuse, Cumulative Effects, Other Issues

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### Reviewing Agencies (Agencies in **Bold Type** submitted comment letters to the State Clearinghouse)

Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of General

Services; **Native American Heritage Commission**; State Lands Commission; California Highway Patrol; **Caltrans, District 1**; Department of Toxic Substances Control; **Regional Water Quality Control Board, Region 1**; Other Agency(ies)

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**Date Received:** 7/2/2009 **Start of Review:** 7/2/2009 **End of Review:** 7/31/2009

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**NOTICE OF PREPARATION  
TRIBAL ENVIRONMENTAL IMPACT REPORT  
FOR  
THE PINOLEVILLE POMO NATION  
GAMING FACILITY PROJECT**



**To: State Clearinghouse, Office of Planning and Research**  
**Attn: Cynthia Bryant** (16 Copies)  
**Director**  
1400 Tenth Street, Room 100 (Delivery)  
P.O. Box 3044  
Sacramento, California, 98512-3044  
916.445.0613 • 916.323.3018 (f)  
state.clearinghouse@opr.ca.gov

**Mendocino County Board of Supervisors for the Ad Hoc Committee**  
**Attn: Carre Brown** (1 copy)  
First District, Vice Chair  
501 Low Gap Road, Room 1090  
Ukiah, California 95482  
707.463.4221 • 707.463.4245 (f)

**Mendocino County Board of Supervisors for the Ad Hoc Committee**  
**Attn: J. David Colfax** (1 copy)  
First District  
501 Low Gap Road, Room 1090  
Ukiah, California 95482  
707.463.4221 • 707.463.4245 (f)

**County of Mendocino, County Council**  
**Attn: Jeanine Nadel** (1 copy)  
501 Low Gap Road, Room 1030  
Ukiah, California 95482  
707.463.4446 • 707.463.4592 (f)

**County of Mendocino, County Council**  
**Attn: Tom Mitchell, CEO** (1 copy)  
501 Low Gap Road, Room 1010  
Ukiah, California 95482  
707.462.4446 • 707.463.5649 (f)

**City of Ukiah, Mayor & City Council Members**  
**Attn: Mayor Phil Baldwin & Council Members** (1 copy)  
c/o City Clerk's Office  
300 Seminary Ave.  
Ukiah, California 95482  
707.463.6213

**Pinoleville Pomo Nation, Tribal Council**  
**Attn: Leona Williams** (4 copies)  
Chairperson  
500B Pinoleville Drive  
Ukiah, California 95482  
707.463.1454 • 707.463.6601 (f)  
leonaw@pinoleville-nsn.us

**NOTICE OF PREPARATION  
TRIBAL ENVIRONMENTAL IMPACT REPORT  
FOR  
THE PINOLEVILLE POMO NATION  
GAMING FACILITY PROJECT**



**Subject:** Filing of the **Notice of Preparation of a Tribal Environmental Impact Report (TEIR)** in compliance with Section 11.8.2 of the *'Tribal-State Compact between the State of California and the Pinoleville Pomo Nation.'* This Notice of Preparation is being circulated only in compliance with Section 11.8.2.

**Lead Government Agency:** The Pinoleville Pomo Nation ("PPN") of California.

**Project Location:** The proposed gaming facility will be located at 2150 North State Street, Mendocino County, California, just north of the city limits of Ukiah, California. The approximately 8.8 acre parcel, located on a former auto dealership lot, is in Township 15 N, Range 12 West, Section 7. The Assessor Parcel Numbers are 169-211-26-00 and 169-221-27-00, see attached maps.

**Project Description:** The Pinoleville Pomo Nation of California proposes to develop, construct and operate a casino on Tribal lands located in Mendocino County, California, just north of the city limits of Ukiah, California.

The proposed gaming facility footprint will span approximately 90,000 square feet, not including hardscaping, landscaping, or carport. The gaming floor will be approximately 28,500 square feet and will be designed to accommodate up to 900 slot machines and 20 gaming tables. Additional casino facilities may include restaurants, dining areas, kitchens, retail outlets, meeting rooms and guest support services. Restaurants may include a buffet, coffee shop, restaurant, and deli food area. The casino may offer a wine room and lounge, which will feature local wineries. Back of the house areas, comprising approximately 45,000 square feet of the total facility, would include surveillance facilities, administrative offices, an employee dining and break room, mechanical space, and kitchen areas. Parking facilities shall be comprised of surface parking.

**Anticipated Environmental Impacts:** The Pinoleville Pomo Nation gaming facility is proposed to be constructed on a 8.8 acre parcel north of the city of Ukiah on property that was last used as a car dealer and vehicle service facility. The project is expected to use the existing infrastructure and services wherever possible, limiting potential environmental impacts.

**Action Requested:** The PPN will be the lead agency, pursuant to the Compact and will cause a TEIR to be prepared for the project described herein.

The PPN respectfully requests your input, or the views of your agency, as to the scope and content of the environmental information relevant to your agency's statutory responsibilities in connection with the proposed project. Your agency will be requested to utilize the TEIR prepared by the Tribe when considering any permit or entitlement you may issue related to the project. Please provide your comments regarding the off-reservation environmental issues and reasonable mitigation measures that the PPN will need to explore in the TEIR.

**NOTICE OF PREPARATION  
TRIBAL ENVIRONMENTAL IMPACT REPORT  
FOR  
THE PINOLEVILLE POMO NATION  
GAMING FACILITY PROJECT**



**Your responses should be sent at the earliest possible date, but no later than 30 days after receipt of this notice by the State Clearinghouse. Please send your response to the following address:**

**Name:** Leona Williams, Chairperson  
**Agency:** Pinoleville Pomo Nation  
**Address:** 500B Pinoleville Drive  
**City:** Ukiah  
**State:** California  
**Zip:** 95482  
**Phone:** 707.463.1454  
**Fax:** 707.463.6601

**Project Title:** The Pinoleville Pomo Nation Gaming Facility Project

**Project Applicant:** The Pinoleville Pomo Nation of California

**Date:** 6/26/09  
**Signature:** Leona L Williams  
**Name:** Leona L. Williams  
**Title:** Chairperson

**NOTICE OF PREPARATION  
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**The Tribal Environmental Impact Review Process:** The PPN will develop an outline of environmental impacts and differences in intensity of impacts of the construction of a multi-level gaming facility with 90,000 square feet of floor space. The site construction plan will also include hardscaping and landscaping as part of the gaming facility infrastructure.

Pursuant to state and local guidelines, the TEIR will describe the potentially significant off-reservation environmental impacts which may occur as a result of the construction and operation of the proposed facility on PPN land.

The TEIR will also identify ways in which the significant effects on the environment might be minimized and will set forth mitigation measures proposed to reduce significant effects on the environment.

The TEIR will also present information regarding the feasibility of proposed mitigation and indicate whether the proposed mitigation would be effective to substantially reduce the significant effects on the environment.

Based on preliminary environmental studies, the PPN has determined that a full-scope Program TEIR is required addressing the following points for this project based on the Tribal-State Compact:

**I. Aesthetics/Visual Resources:**

With the development of the proposed facility, it is anticipated the aesthetics and visual resources in the area will be impacted. It is anticipated that those impacts will be minimal due to the industrialized nature of the proposed project location. Initial impacts that will be evaluated may consist of advertising signage, the gaming facility in conjunction with related infrastructure, such as parking, hardscape and landscaping. Other evaluations will consider any off-reservation aesthetic or visual impacts created by the development and operation of the project. The TEIR will analyze impacts such as changed views from local roads, residential areas and public buildings, and effects of outdoor lighting. The TEIR will include architectural renderings of the proposed structures and details of proposed building materials, building height, lighting, landscaping and signage. The TEIR will evaluate potential changes to the existing visual character and quality of the area, including light and glare effects and will identify mitigation measures, if necessary.

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**II. Agricultural Resources:**

It is anticipated that the impact to agricultural resources will be minimal, given that the land currently serves as a paved and gravel parking lot for the existing auto sale buildings. The proposed project will involve removing and upgrading the existing paved surfaces, improving landscaping and drainage systems and replacing older buildings with a new facility. However, the TEIR will evaluate any impacts created by the development and operation of the project to the off-reservation agricultural resources which could result in the conversion of off-reservation farmland to non-agricultural use.

**III. Air Quality:**

Air quality will be impacted during construction as well as during the operation of the facility. Throughout construction, the primary impact will be airborne particulates and its impact to off-reservation receptors. Post-construction air quality impacts will be from patron traffic and general operations within the gaming facility. The TEIR will evaluate the impacts regarding air quality and the established air quality standards for both construction as well as long term post-development operation of the facility. The TEIR will evaluate potential pollutants and odors created throughout construction and operation of the project and those exposures to off-reservation sensitive receptors.

**IV. Biological Resources:**

Impacts to the biological resources are anticipated to be minimal, since the site is currently developed and the new facilities are not anticipated to impact any new biological resources. To show this, the TEIR will evaluate any potential impact on species in the local or regional plans, policies or regulations by the California Department of Fish and Game and/or U.S. Fish and Wildlife Service. Any impacts to federally protected off-reservation wetlands as defined by Section 404 of the Clean Water Act or other sensitive natural communities will also be evaluated. The TEIR will analyze the impacts to any native or migratory fish or wildlife species and their habitats and established corridors, as identified in the local or regional plans, policies and regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service as well as any recognized adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local regional or state habitat conservation plan.

**V. Cultural Resources:**

Impacts to cultural resources are anticipated to be minimal because the site is already developed and the new facilities are not anticipated to impact any new cultural resources. Off-reservation impacts to historical, archeological, paleontological and geological resources or features will be evaluated in the TEIR, as well as any off-reservation disturbances to human remains.

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**VI. Geology and Soils:**

Geotechnical resource impacts are anticipated to be minimal since the site is currently developed and the new facilities are not anticipated to alter or compromise any existing geologic features. However, exposure to off-reservation people or structures to adverse effects including loss, injury or death with respect to seismicity, erosion and landslides due to construction of the project will be evaluated in the TEIR.

**VII. Hazards and Hazardous Materials:**

The TEIR will analyze potential off-reservation effects on the public and the environment from hazardous materials, hazardous emissions, and safety hazards that currently exist or that may result from the project implementation.

**VIII. Water Resources:**

The TEIR will evaluate any impacts to established off-reservation water quality or waste discharge standards. Impact to off-reservation groundwater supplies, groundwater tables, drainage and waterway patterns, flood hazard zones, and stormwater management will also be evaluated as well as exposure to off-reservation people, and structures as a result of impacts to water resources. It is anticipated that impact to water resources will be minimal and the majority of impacts will occur during construction.

**IX. Land Use:**

The proposed project will not introduce new land use to the area and the anticipated impact will be minimal. The TEIR will evaluate the compatibility of the proposed project to other off-reservation concerns that may be impacted such as habitat conservation plans, navigable airspace, residential areas, local schools, parks in the project's vicinity, and the project's compatibility with the existing Ukiah Valley General Plan.

**X. Mineral Resources:**

The TEIR will evaluate potential off-reservation availability of known valuable mineral resources, as well as the loss of available off-reservation, locally imported mineral resources recovery sites as identified on local plans or other land use plans. It is anticipated that the proposed project will have little to no effect on mineral resources.

**XI. Noise:**

The TEIR will evaluate the off-reservation noise impacts generated during construction and post-construction operation of the facility. Contributing noise and vibration generators evaluated will be traffic, construction equipment, and the facility post-construction. Specifically, related to the exposure of noise levels in excess of established and applicable standards to sensitive off-reservation receptors.



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**XII. Population and Housing:**

Off-reservation population growth and the potential displacement of existing housing that would necessitate the construction of replacement housing off-reservation will be discussed in the TEIR. It is anticipated that impact to the population and housing will be insignificant because the majority of the employees would already live within commuting distance of the proposed project.

**XIII. Public Services:**

The TEIR will evaluate potential physical impacts associated with the provision of new or physically altered off-reservation government 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 off-reservation public services, such as fire, police, schools, parks and other public facilities.

**XIV. Recreation:**

The potential for use of off-reservation neighborhood and regional parks or other recreations facilities to substantial physical deterioration will be evaluated and presented in the TEIR. It is not anticipated that off-reservation recreation will be significantly impacted, because most of the patrons will limit their activities to the gaming facility.

**XV. Transportation/Traffic:**

The TEIR will evaluate potential off-reservation impacts associated with an increase in traffic due to the construction and operation of the gaming facility. This evaluation will examine existing and future traffic loading and capacity of the existing transit infrastructure, including the level of service, existing hazards, and impacts to off-reservation emergency responders.

**XVI. Utilities and Service Systems:**

Potential impacts or exceedances in off-reservation wastewater treatment requirements of the applicable Regional Water Quality Control Board will be evaluated. In addition, the capacity and/or ability of the existing wastewater treatment, and stormwater drainage facilities will be evaluated to determine if the project will have adverse effects on water quality or if changes to the existing infrastructure will need to be made to ensure the health and safety of the off-reservation public and the groundwater supply.

**XVII. Cumulative Effects:**

The potential effects of project implementation on off-reservation resources, in combination with other past, current and probable future projects, will also be evaluated.

# ***APPENDIX B***

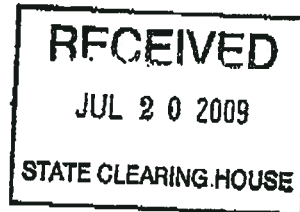
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***COMMENTS LETTERS TO NOTICE OF PREPARATION***

NATIVE AMERICAN HERITAGE COMMISSION  
915 CAPITOL MALL, ROOM 364  
SACRAMENTO, CA 95814  
(916) 653-4082  
Fax (916) 657-5390



July 14, 2009



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Leona Williams  
Pinoleville Pomo Nation  
500 B Pinoleville Drive  
Ukiah, CA 95482

RE: Notice of Preparation (NOP) for the Pinoleville Pomo Nation Gaming Facility and Hotel Project Draft Environmental Impact Report (EIR); Mendocino County. SCH# 2009072008.

Dear Ms. Williams:

The Commission has reviewed the above-mentioned Notice of Preparation (NOP) for the Pinoleville Pomo Nation Gaming Facility and Hotel Project Draft Environmental Impact Report (EIR); Mendocino County. SCH# 2009072008. and does not have any comments.

Sincerely,

Katy Sanchez  
Program Analyst

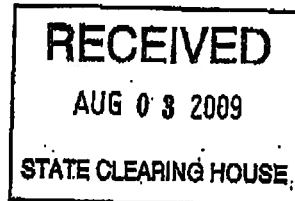
CC: State Clearinghouse  
Janielle Jenkins, Office of the Governor, Legal Affairs  
Sara Drake, Department of Justice  
Sylvia Cates, Office of the Governor (Legal)

EUREKA, CA 95502-3700  
PHONE (707) 441-2009  
FAX (707) 441-5869  
TTY 711



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July 31, 2009



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1-MEN-101-26.39  
Pinoleville Gaming Facility  
SCN# 2009072008

Leona Williams, Chairperson  
Tribal Council  
Pinoleville Pomo Nation  
500 B Pinoleville Drive  
Ukiah, CA 95482

Dear Ms. Williams,

Thank you for giving us the opportunity to comment on the Notice of Preparation for the Pinoleville Pomo Nation Gaming Facility and Hotel Project draft Environmental Impact Report. The proposed gaming facility will have a 90,000 square-foot footprint and the gaming area will consist of 28,500 square feet. The project is located just north of the City of Ukiah, opposite the terminus of Hollow Tree Road at North State Street. We have the following comments:

#### TRAFFIC

- The proposed project has the potential to create significant traffic impacts, both direct and cumulative, to Route 101 at the North State Street interchange. We request that the Tribe prepare a traffic impact study for the proposed project to assess the change in traffic conditions both before and after the project is completed. The study should determine the project's impacts on the transportation and circulation system and propose mitigation measures to reduce impacts to less-than-significant levels.
- We request a scoping meeting with the Tribe's traffic engineer prior to conducting the traffic analysis to clarify our expectations and assumptions, some of which are described in the following bullet points.
- The operation of the Route 101 ramps to the south of the project area is closely tied to the operation of North State Street. Due to the complexity of the circulation system in the vicinity of the project, the study will require a micro-simulation model to analyze traffic progression on North State Street.
- We request that the study include, at a minimum, all North State Street intersections between the intersection with Ford Road and the intersection of Hollow Tree Road.

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2005 JUN 21 11:00 AM  
COUNTY OF MENDOCINO  
COURT CLERK'S OFFICE  
1000 S. STATE STREET  
UKIAH, CA 95428

There may also be some significant driveways in the corridor that should be included. The Lake Mendocino Drive interchange should be studied as well, although it does not need to be included in the micro-simulation. We strongly recommend that the County of Mendocino and the City of Ukiah be consulted as to their recommendations with regard to study intersections in their jurisdiction.

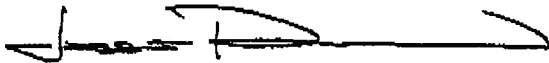
- The analysis of any proposed signals at the Route 101 ramp termini at North State Street should include an evaluation of the ramp intersection Level of Service (LOS). Particular attention should be paid to ramp deceleration lengths, sight distance, and storage and the interaction of the ramps with State Street as a corridor system.
- We request that the study be consistent with the Caltrans Guide for the Preparation of Traffic Impact Studies (Caltrans Guide) and the District 1 Supplement to the Caltrans Guide. A copy of the District 1 Supplement is enclosed. The Caltrans Guide is available on-line at: <<http://www.dot.ca.gov/dist1/d1transplan/tisguide-Dec02.pdf>>.
- As part of the cumulative impacts analysis, the Pinoleville Gaming Facility should be analyzed both with and without the traffic generated from other pending and proposed projects in the vicinity. Caltrans District 1 has requested traffic studies from two significant project proposals on North State Street between the North State Street interchange and the Lake Mendocino Drive interchange on Route 101: the proposed Künzler Terrace Mine Project, which would generate additional truck traffic; and the proposed Mendocino Crossings Specific Plan, which will be included as a ballot measure in the Mendocino County election this November. The Specific Plan, proposed by Developers Diversified Realty (DDR) for the redevelopment of the former Masonite mill site, can be found on-line at: <<http://www.mendocinocrossings.com/>>.
- Other items to note for the project's traffic study include:
  - District 1 uses a straight-line growth factor for projecting traffic increases over a 20 (or more) year period for State routes. We use the straight-line projection because annual percent rates tend to distort (too high) when projected over a long period of time, due to compounding. Our growth factor for Route 101 through Ukiah is 1.5, which would result in a 50% increase in traffic volumes in 20 years.
  - The analysis should include the scenarios listed in the Caltrans Guide for the Preparation of Traffic Impact Studies. We request that the Traffic Study analyze 10 years beyond project completion for the future conditions scenario.
  - Project trip distribution should be thoroughly justified in the Traffic Study.

## PERMITS

- Any work within the State right of way will require an approved encroachment permit. Encroachment permit applications are reviewed for consistency with State standards and are subject to Department approval. Requests for Caltrans encroachment permit application forms can be sent to Caltrans District 1 Permits Office, P.O. Box 3700, Eureka CA 95502-3700, or requested by phone at (707) 445-6385. For additional information, the Caltrans Permit Manual is available online at:  
<<http://www.dot.ca.gov/hq/traffops/developserv/permits/>>.

If you have questions or need further assistance, please contact me at (707) 441-2009.

Sincerely,



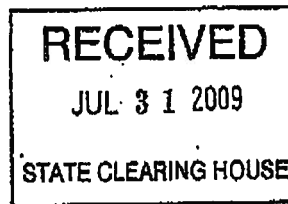
Jesse Robertson  
Associate Transportation Planner  
District 1 Regional & Community Planning

- c: Scott Morgan, State Clearinghouse  
Sara Drake, California Department of Justice  
David McCray, Assistant Chief Counsel, HQ Legal  
Carolyn Yee, Native American Liaison Branch  
Gary Arnold, HQ Local Development Review—IGR  
Tom Mitchell, CEO, Mendocino County  
Nash Gonzalez, Director, Mendocino County Planning & Building Department  
Howard Dashiell, Director, Mendocino County Department of Public Works  
Phil Dow, Mendocino Council of Governments  
Charlie Stump, City of Ukiah Community Development Department



DEPARTMENT OF TRANSPORTATION  
DISTRICT 1, P. O. BOX 3700  
EUREKA, CA 95502-3700  
PHONE (707) 441-2009  
FAX (707) 441-5869  
TTY 711

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July 31, 2009

1-MEN-101-26.89  
Pinoleville Gaming Facility  
SCH# 2009072008

Leona Williams, Chairperson  
Tribal Council  
Pinoleville Pomo Nation  
500 B Pinoleville Drive  
Ukiah, CA 95482

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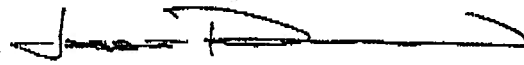
Leona Williams  
7/31/2009  
Page 3

#### PERMITS

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If you have questions or need further assistance, please contact me at (707) 441-2009.

Sincerely,



Jesse Robertson  
Associate Transportation Planner  
District 1 Regional & Community Planning

- c: Scott Morgan, State Clearinghouse  
Sara Drake, California Department of Justice  
David McCray, Assistant Chief Counsel, HQ Legal  
Carolyn Yee, Native American Liaison Branch  
Gary Arnold, HQ Local Development Review—IGR  
Tom Mitchell, CEO, Mendocino County  
Nash Gonzalez, Director, Mendocino County Planning & Building Department  
Howard Dashiell, Director, Mendocino County Department of Public Works  
Phil Dow, Mendocino Council of Governments  
Charlie Stump, City of Ukiah Community Development Department



**California Regional Water Quality Control Board  
North Coast Region  
Bob Anderson, Chairman**



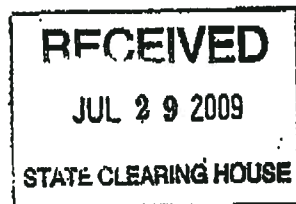
Linda S. Adams  
Secretary for  
Environmental Protection

[www.waterboards.ca.gov/northcoast](http://www.waterboards.ca.gov/northcoast)  
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Arnold  
Schwarzenegger  
Governor

July 23, 2009

Ms. Leona Williams  
Pinoleville Pomo Nation  
500 B Pinoleville Drive  
Ukiah, CA 95482



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Dear Ms. Williams:

**Subject: Comments on the Notice of Preparation of a Tribal Environmental Impact Report for the Pinoleville Pomo Nation Gaming Facility and Hotel Project, SCH No. 2009072008**

Thank you for the opportunity to comment on the Notice of Preparation (NOP) of a Tribal Environmental Impact Report (TEIR) for the Pinoleville Pomo Nation Gaming Facility and Hotel Project. We appreciate the chance to respond and express concerns early in the environmental review process relating to our statutory responsibility. The North Coast Regional Water Quality Control Board (Regional Water Board) has jurisdiction over the quality of ground and surface waters (including wetlands) and the protection of the beneficial uses of such waters. As this specific project is on tribal land, we are unclear as to whether we are a responsible agency for the project as defined by the California Environmental Quality Act (CEQA). Regardless, we submit this letter with comments and concerns for your reference while preparing the TEIR.

The proposed project consists of the development of a casino/gaming facility, hotel and associated surface parking on an 8.8 acre parcel of Tribal lands north of the City of Ukiah. The hotel and casino have an estimated footprint of 90,000 square feet. The project site was previously occupied by a car dealership and vehicle maintenance business. As per satellite imaging, the project site has several trees, both paved and unpaved areas, and is located immediately south of Ackerman Creek.

**Biological Resources**

The NOP states that impacts to biological resources "are anticipated to be minimal, since the site is currently developed and the new facilities are not anticipated to impact any new biological resources." The Regional Water Board strongly recommends that the analysis of impacts upon biological resources address potential impacts to

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Ackerman Creek, a riparian corridor immediately adjacent to the project site. Impacts to Ackerman Creek could include storm water runoff or discharge from the project site (see Storm water comments), grading or construction near or within the riparian area, and removal of riparian vegetation.

### Riparian Buffer Zones

Riparian buffer areas protect streams and creeks from polluted runoff, construction related sedimentation, and streambank erosion related to high use. The Environmental Protection Agency (EPA) recommends a *minimum* riparian buffer zone of 100 feet from the top of bank on either side of a stream or creek. Given the high traffic that the gaming facility and hotel will generate and the extensive construction that will be required, the Regional Water Board suggests delineating the maximum possible riparian buffer. In addition, riparian buffer areas must be designed to prevent runoff from channeling into a stream that cuts across the buffer area, and these buffer areas should include vegetation for biofiltration of water. For more information on utilizing biofiltration, please see the following Storm Water and Low Impact Development comments.

### **Storm Water**

The NOP states that the project is estimated to have a footprint of 90,000 square feet. It is unclear whether this footprint includes the proposed surface parking. This should be specified in the TEIR. Based on satellite imaging of the project site, it appears that the site involves both paved and unpaved space. The TEIR should describe the extent of currently unpaved space that will be paved for the project. Increases in impervious surfaces, such as asphalt or concrete cover for a parking lot, result in increased storm water runoff. The TEIR should also provide an estimate of runoff levels both pre- and post-development. Mitigation measures in the TEIR should enable the project to match post-development runoff levels to pre-development runoff levels.

### Low Impact Development

The TEIR should include mitigation measures for increases in storm water runoff related to increases in impervious surfaces. Maximizing pervious surfaces, particularly those that filter runoff, is imperative. Pervious areas allow storm water to infiltrate the ground, which filters water, recharges groundwater, and lessens development-related increases in runoff. Pervious surfaces can include vegetated strips and planter boxes in parking lots. Design features like pervious pavement can be utilized for parking areas that are underused, such as overflow parking.

The Regional Water Board strongly encourages utilizing Low Impact Development (LID) techniques to address potential storm water impacts as close to the source as possible. By minimizing urban runoff, LID techniques promote healthy aquatic systems and can

reduce flood and drainage control costs over time. We have included a list of LID and storm water resources at the end of this letter for your reference.

### Construction and Post-Construction BMPs

Construction projects have the potential to discharge pollutants to surface water and ground waters. Appropriate best management practices (BMPs) for the prevention of pollution must be implemented and should be monitored to ensure protection of water quality. Examples of construction BMPs include timing development for the dry season and using silt fences or straw bales to protect creeks from sediment. Post-construction BMPs include measures to ensure that operation of the facility after construction does not result in the discharge of pollutants entrained in storm water from the site. Examples of good post-construction BMPs include the use of bioswales and tree filters to slow storm water and treat it to remove pollutants such as sediment, and pollutants that accumulate on parking lots such as oil and grease and metals. Other BMPs that we encourage for this type of facility are regular parking lot cleaning to remove pollutants, monitoring programs to ensure that riparian revegetation is successful, maintenance of post-construction BMPs, and employee training in hazardous materials usage and spill cleanup for loading zones. The TEIR should include a discussion pertaining to long-term management methods of all post-construction BMP features, landscape maintenance including herbicide and pesticide use, and maintenance of the grounds, for the proposed project.

Drought tolerant, non-intrusive native plant vegetation should be used for all proposed landscaping. The use of native species greatly reduces the need for pesticides, herbicides, fertilizers, and other potentially toxic chemicals, which could discharge to receiving waters. Native species vegetation can also conserve water and reduce energy needs. We strongly recommend limiting ground disturbance to the dry season.

### Storm Drains

The Regional Water Board strongly recommends routing storm drains into biofiltration devices, such as vegetated swales or man-made wetlands, rather than into the nearby creek.

### **Hazardous Materials Sites/Cleanups**

The proposed project is located at a former soil and groundwater cleanup site known as Ken Flower Motors, Inc. The site completed Regional Water Board requirements for cleanup and a No Further Action letter was issued on June 17, 2005. While the site was issued a No Further Action letter, residual contamination in soil and groundwater may remain on-site. The TEIR needs to address the potential to encounter contaminated material during the construction activities. The TEIR should recommend the preparation of a soil and/or groundwater management plan to address the potential

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for encountering contamination during development and/or trenching activities, including measures to properly handle, store, characterize, transport and dispose of encountered hazardous materials. This plan, as well as any actions involving hazardous materials encountered on the site, should involve coordination with Regional Water Board staff and any other appropriate agencies. For Regional Water Board cleanup site contact information, please refer to the contact information concluding this letter.

### **Wastewater**

The TEIR should identify how domestic wastewater and other wastewater flows will be disposed of. The Regional Water Board interprets the NOP as implying that the gaming facility and hotel will use Ukiah's municipal wastewater treatment facility. The Regional Water Board strongly supports utilizing a municipal wastewater treatment facility for wastewater disposal, and we encourage the project proponent to engage in discussions with the City of Ukiah early on to pursue this option.

If on-site wastewater disposal is contemplated, the TEIR must identify a plan to dispose of wastewater in a manner that fully complies with State water quality standards.

### **Permitting Actions**

**Waste Discharge Requirements (WDRs) or a Conditional Waiver of WDRs:** Under authority of the California Water Code, the Regional Water Board may issue WDRs for any project which discharges or threatens to discharge waste to waters of the State. Projects that impact waters of the State (including any grading activities within stream courses or wetlands) require permitting by the Regional Water Board. The Regional Water Board may also require permits for discharges of post-construction storm water runoff and on-site septic systems accepting 1,500 gallons or more per day. You may contact me with any questions about the need for waste discharge requirements for this project. An application may be printed from the State Water Resource Control Board website at: [www.swrcb.ca.gov/sbforms/](http://www.swrcb.ca.gov/sbforms/).

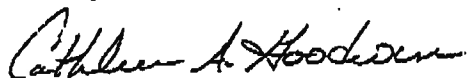
**General Construction Activity Storm Water Permit:** Land disturbances on proposed projects of one acre or more require coverage under the general construction storm water permit. If the land disturbance will be in excess of one acre, the owner of the property will need to apply for coverage under this permit prior to the commencement of activities on-site. This permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that identifies best management practices (BMPs) to minimize pollutant discharges from a construction site. The permit also requires inspections of construction sites before and after storm events, and every 24 hours during extended storm events. The purpose of the inspections is to identify maintenance requirements for the BMPs and to determine the effectiveness of the implemented BMPs. Owners may call Paul Keiran at this office at (707) 576-2753 receive a permit package or download it off the Internet at [www.waterboards.ca.gov](http://www.waterboards.ca.gov).

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If you have any general questions, you may contact me at (707) 576-2687 or [cgoodwin@waterboards.ca.gov](mailto:cgoodwin@waterboards.ca.gov). Questions related to construction storm water may be directed to Paul Keiran at (707) 576-2753 and questions related to hazardous materials cleanup may be directed to Colleen Hunt at (707) 576- 2831.

Sincerely,



Cathleen A Goodwin  
Water Resources Control Engineer

090723\_CMT\_PinolevillePomoCasino\_NOP

Enclosures: LID and Storm Water Resources

cc: Scott Morgan, State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812  
RE: SCH No. 2009072008

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### Low Impact Development Resources

Puget Sound LID manual:

[http://www.psp.wa.gov/downloads/LID/LID\\_manual2005.pdf](http://www.psp.wa.gov/downloads/LID/LID_manual2005.pdf)

Resolution of the California Ocean Protection Council Regarding Low Impact Development:

[http://www.resources.ca.gov/copc/05-15-](http://www.resources.ca.gov/copc/05-15-08_meeting/05_LID/0805COPC05_%20LID%20Res%20amended.pdf)

[08\\_meeting/05\\_LID/0805COPC05\\_%20LID%20Res%20amended.pdf](http://www.resources.ca.gov/copc/05-15-08_meeting/05_LID/0805COPC05_%20LID%20Res%20amended.pdf)

Low Impact Development Center:

<http://www.lowimpactdevelopment.org/>

Green Infrastructure Municipal Handbooks:

<http://cfpub2.epa.gov/npdes/greeninfrastructure/munichandbook.cfm>

Marin County's LID manual:

<http://www.mcstoppp.org/acrobat/GuidanceforApplicantsv.2-5-08.pdf>

San Diego County's LID manual – has a section on LID for roads:

<http://www.sdcounty.ca.gov/dplu/docs/LID-Handbook.pdf>

Low Impact Development – Sustainable Storm Water Management:

[http://www.waterboards.ca.gov/water\\_issues/programs/low\\_impact\\_development/](http://www.waterboards.ca.gov/water_issues/programs/low_impact_development/)

EPA Green Infrastructure Basic Information:

<http://cfpub.epa.gov/npdes/greeninfrastructure/information.cfm>

Managing Wet Weather with Green Infrastructure:

[http://cfpub.epa.gov/npdes/home.cfm?program\\_id=298](http://cfpub.epa.gov/npdes/home.cfm?program_id=298)

State Water Board Funded Projects That Include Low Impact Development:

[http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/low\\_impact\\_development/](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/low_impact_development/)

City of Portland's Sustainable Storm Water Management Program – LID for streets:

<http://www.portlandonline.com/bes/index.cfm?c=34598>

Low Impact Development Center – Green Highways and Green Infrastructure:

[http://www.lowimpactdevelopment.org/green\\_highways.htm](http://www.lowimpactdevelopment.org/green_highways.htm)

Streetscape improvements and water quality design:

<http://www.lowimpactdevelopment.org/nhb/lid.htm>

Low Impact Development for Roads - Washington State Green Building for Transportation Infrastructure

webpage: <http://www.metrokc.gov/kcdot/roads/eng/lid/militarys272/index.cfm>

LID Urban Design tools -- has design software for different BMPs:

<http://www.lid-stormwater.net/homedesign.htm>

LID design fact sheet:

<http://www.coastal.ca.gov/nps/lid-factsheet.pdf>

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LID Training Program for Linear Transportation Projects:  
[http://www.lowimpactdevelopment.org/epa03\\_transportation.htm](http://www.lowimpactdevelopment.org/epa03_transportation.htm)

Storm Water Management and LID at EPA headquarters – BMP choice and design:  
[http://www.epa.gov/owow/nps/lid/stormwater\\_hq/](http://www.epa.gov/owow/nps/lid/stormwater_hq/)

<http://sustainableites.org/>

A Review of Low Impact Development Policies: Removing Institutional Barriers to Adoption:  
[http://www.waterboards.ca.gov/lid/docs/ca\\_lid\\_policy\\_review.pdf](http://www.waterboards.ca.gov/lid/docs/ca_lid_policy_review.pdf)

[http://www.cwp.org/Resource\\_Library/Center\\_Docs/SW/georgia\\_css.pdf](http://www.cwp.org/Resource_Library/Center_Docs/SW/georgia_css.pdf)

**Storm Water Resources:**

The CASQA Construction BMP manual:  
<http://www.cabmphandbooks.com/Construction.asp>

This is our MS4 website that has storm water and LID links:  
[http://www.waterboards.ca.gov/northcoast/water\\_issues/hot\\_topics/santa\\_rosa\\_ms4\\_npdes\\_stormwater\\_permit/](http://www.waterboards.ca.gov/northcoast/water_issues/hot_topics/santa_rosa_ms4_npdes_stormwater_permit/)

State Water Board Storm Water Program:  
[http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/](http://www.waterboards.ca.gov/water_issues/programs/stormwater/)

Erase the Waste Campaign – California Storm Water Toolbox:  
[http://www.waterboards.ca.gov/water\\_issues/programs/outreach/erase\\_waste/](http://www.waterboards.ca.gov/water_issues/programs/outreach/erase_waste/)

State Water Board Storm Water Grant Program:  
[http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/prop84/index.shtml](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/prop84/index.shtml)

The San Francisco Regional Water Board storm water website:  
[http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/stormwater/avail\\_docs.shtml](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/avail_docs.shtml)

EPA Storm Water Program:  
[http://cfpub.epa.gov/npdes/home.cfm?program\\_id=6](http://cfpub.epa.gov/npdes/home.cfm?program_id=6)

Federal Funding Sources for Watershed Protection:  
<http://cfpub.epa.gov/fedfund/>

California Stormwater Quality Association:  
<http://www.casqa.org/>

Stormwater Manager's Resource Center:  
<http://www.stormwatercenter.net/>

Post Construction BMPs:  
<http://www.stormwaterauthority.org/library/library.aspx?id=190>

For more information, please contact Mona Dougherty at [mdougherty@waterboards.ca.gov](mailto:mdougherty@waterboards.ca.gov).

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**From:** "Jeanine B. Nadel" <[nadelj@co.mendocino.ca.us](mailto:nadelj@co.mendocino.ca.us)>

**Date:** April 8, 2010 6:21:00 PM PDT

**To:** <[Jtang2@san.rr.com](mailto:Jtang2@san.rr.com)>

**Subject:** Response to NOP from Air Quality

The document does not identify Air Quality Impacts from Demolition - specifically how Asbestos will be identified, handled and transported.

If the land is Trust Land the District has no regulatory authority over activities which might disturb Asbestos (like Demolition) - however the Tribe still must follow Federal Law (40CFR Subpart 61). The Tribe would need to have an Asbestos survey conducted and abate any regulated material prior to demolition. They would also need to notify US EPA 10 days prior to the Demolition. If the Land is fee land (i.e. taxed) they would need to notify the District prior to the Demolition and pay the notification fees.

The disposal of the Asbestos will not be occurring on Trust land (likely the Ukiah Transfer Station) and would need to comply with relevant regulations. Transfer of the material to the disposal location will need to comply with relevant regulations to ensure the public is not exposed to asbestos.

The NOP does not explicitly state that Greenhouse Gas Emissions will be identified and discussed.

Christopher D. Brown MA AICP  
Air Pollution Control Officer  
Mendocino County Air Quality Management District  
306 E. Gobbi Street  
Ukiah, Ca 95482  
Ph. (707) 463-4354  
Fx. (707) 463-5707  
Web <http://www.mendoair.org>

JEANINE B. NADEL, County Counsel  
Mendocino County Counsel Office, Administration Center  
501 Low Gap Rd., Rm. 1030, Ukiah, CA 95482  
Direct line: (707) 463-4449, Main Office Line: (707) 463-4446, Fax: (707) 463-4592  
Email: [nadelj@co.mendocino.ca.us](mailto:nadelj@co.mendocino.ca.us)



Leona Williams, Chairperson  
Pinoleville Pomo Nation  
500B Pinoleville Drive  
Ukiah, CA  
95482

April 8, 2010

Subject: Notice of Preparation (NOP) for Tribal Environmental Impact Report (TEIR) for the Pinoleville Pomo Nation Proposed Gaming Facility Project.

Thank you for the opportunity to comment on this project. Water Agency staff has reviewed the subject document and submits the following comments for analysis in the TEIR. Staff acknowledges the environmental benefits of reusing an existing abandoned facility rather than breaking new ground in a sprawl-like manner.

1. Drainage standards have changed considerably in this area since the former auto dealership, the site of the proposed project, was built. These changes stem through the introduction of National Pollutant Discharge Elimination System (NPDES) Phase II regulations in our area, through the Regional Water Quality Control Board (RWQCB), regarding storm water discharge. These standards require that storm water be filtered or treated before discharge to a water body or storm drain. An array of techniques exists to achieve this objective and the preferred mechanism is on-site treatment utilizing vegetation. We anticipate that the TEIR will be able to achieve the goal of stormwater treatment before discharge.

This Agency will be pleased to provide assistance in this regard, as we are the County Lead Agency for this program. Reducing the area of impervious surfaces and hydrologically disconnecting large impervious surfaces will go a long way towards reducing the volume of stormwater runoff, a key factor in storm water management. Thus we encourage the use of pervious concrete, asphalt, pavers or other mechanisms to reduce impervious surface area.

2. Water conservation is of great concern in this county, and we strongly encourage the use of native, low water use plants or xeriscaping as landscaping. Especially when this same vegetation or ground is used for stormwater management. We strongly encourage the use of rainwater catchment mechanisms to augment the facility water supply, as this water can be used for landscaping purposes. We also offer our assistance in regard to water conservation.

Please include this agency on the distribution list for the TEIR. Please contact us with any questions or concerns regarding these comments.

Sincerely,

Dennis Slota,  
Hydrologist





COUNTY OF MENDOCINO  
DEPARTMENT OF PLANNING AND BUILDING SERVICES  
501 LOW GAP ROAD · ROOM 1440 · UKIAH · CALIFORNIA · 95482

IGNACIO GONZALEZ, DIRECTOR  
Telephone 707-463-4281  
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pbs@co.mendocino.ca.us  
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April 12, 2010

Leona Williams, Chairperson  
Pinoleville Pomo Nation  
500 B Pinoleville Drive  
Ukiah, CA 95482

Re: Preliminary Comments/Practical Factors for Gaming Facility and Hotel Project

Dear Ms. Williams,

Thank you for receipt of the Notice of Preparation for the above noted project. This project does raise concerns regarding the following issues:

**Stormwater:** While the existing site is largely covered with impervious surfaces, on site stormwater retention and possible treatment should be considered. The previous use of an automobile dealership was predominantly new car sales. The parking lot for the proposed facility will be used by vehicles of all types and conditions. Treatment of runoff should consider increased loads of contaminants that may emanate from these automobiles.

Stormwater runoff during construction should be considered due to the proximity of Ackerman Creek. Appropriate mitigation measures including best management practices should be considered for any construction activities.

**Air Quality:** The site will have much more intense use, on potentially a 24 hour basis, from autos. See Air Quality Management District comments.

**Aesthetics:** While the site is located along a major highway corridor, the previous use had more traditional “working hour” operations. This will be a potentially 24 hour operation resulting in increases to the noise generation within the project area. It must be remembered that the surrounding industrial uses have been underutilized for many years so ambient consideration of today’s environment should be the baseline data considered. We also would disagree with the description that this area having an “industrialized nature.” Regardless, of some of the land use designations in the immediate area, the greater area surrounding the site still does have an overall rural character. Design of the facility should remain consistent with that setting. Changes in ambient lighting will impact the dark sky that a rural county takes pride in. Signage, while very restricted in area by current zoning, also should not contain bright, flashing, moving, stroboscopic lights or features. The City of Ukiah and the County are moving towards much more contemporary, low profile sign programs.

It is also suggested that appropriate water efficient landscaping including the use of trees in parking lots be considered as such development amenities reduce heat and break the monotony of such facilities.

The size of the facility contemplated is quite large by local standards. Blending with the surrounding environment is very important as the project lies in a “gateway” position to the City of Ukiah. Consistency with design current standards and consultation with local agencies is strongly recommended.

**Parking:** A project of this size will require significant on-site parking. Parking standards of the County’s Zoning Ordinance should be strongly considered which provide for consideration of the many aspects of the proposal e.g. restaurants, gaming areas, meeting rooms, office space, etc. Also see DOT comments regarding circulation and traffic issues.

**Water and Sewer Service:** The project will greatly increase water use and wastewater generated. The site is in an area which is served by districts which have moratoriums and/or severe limitations for new uses. Water conservation measures for landscaping and operational use should be developed.

**Housing:** The Ukiah Valley is in great need of worker based housing. While we have met with the Pinoleville Tribe regarding housing projects in the vicinity, no specific housing proposals have ultimately been developed or submitted. How will the housing demand created by this project be addressed?.

**Land Use:** Of note, the following policy was recently adopted as part of the County’s updated General Plan. The policy is followed by “action items” which are to become part of the development standard for the community. We would strongly encourage this, and all development projects to consider the standards suggested.

Policy DE-78: Site planning and design shall adhere to resource protection standards in order to integrate and complement the natural ecology and environmental setting. The emphasis shall be on creation of livable communities, function of scale, and land use pattern and intensity.

Action Item DE-78.1: Consider developing community design guidelines. Issues addressed

in the guidelines should include :

- Site planning, including setbacks and building envelop,
- Circulation and multi-modal access,
- Streetscapes,
- Landscaping (including the use of native and drought tolerant plants),
- Parking,
- Lighting,
- Utility placement,
- Signage, and
- Use of green building principles in the planning, construction, and operation of new and renovated structures.

Action Item DE-78.2: Review and revise the County’s Zoning Ordinance to incorporate standards and planning incentives for development projects that adhere to the US Green

Building Council's LEED (or similar) standards or Build It Green's GreenPoint rated standard (or similar standard) for commercial and residential development.

Action Item DE-78.3: Work with the incorporated cities to develop coordinated green building policies and programs to encourage development that complies with LEED and GreenPoint or similar programs.

Thank you for the opportunity to comment. Should you have any questions, feel free to contact this office.

Sincerely,

Frank Lynch  
Chief Planner

# ***APPENDIX C***

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## ***OFF-RESERVATION ENVIRONMENTAL IMPACTS ANALYSIS CHECKLIST***

## OFF-RESERVATION ENVIRONMENTAL IMPACT ANALYSIS CHECKLIST

### I. AESTHETICS

Would the Proposed Project:	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage off-Reservation scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Create a new source of substantial light or glare, which would adversely affect day or nighttime views of historic buildings or views in the area?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A-C See Chapter 4.2, Aesthetics.

### II. AGRICULTURAL RESOURCES

Would the Proposed Project:	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Involve changes in the existing environment, which, due to their location or nature, could result in conversion of off-Reservation Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

A. No off-Reservation agricultural land would be converted to non-agricultural land as a result of the Proposed Project.

B.

### III. AIR QUALITY

Would the Proposed Project:	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose off-Reservation sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people off-Reservation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

A-E See Chapter 4.3, Air Quality.

#### IV. BIOLOGICAL RESOURCES

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse impact, either directly or through habitat modifications, on any 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any off-Reservation riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected off-Reservation wetlands as defined by Section 404 of the Clean Water Act.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

A-E See Chapter 4.5, Biological Resources

**V. CULTURAL RESOURCES**

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of an off-Reservation historical or archaeological resource?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Directly or indirectly destroy a unique off-Reservation paleontological resource or site or unique off-Reservation geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Disturb any off-Reservation human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

A-C The Proposed Project would not have any impact on off-Reservation cultural or paleontological resources. There will be no off-Reservation ground disturbances that would adversely impact the significance of historic properties, paleontological resources or sites, or unique geologic features.



**VI. GEOLOGY AND SOILS**

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Expose off-Reservation people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial off-Reservation soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

A. The Proposed Project would not impact or expose off-Reservation people or structures to potential adverse effects resulting from seismic activity, ground failure (liquefaction), or landslides.

C. Construction activities relating to the Proposed Project require a federal National Pollution Discharge Elimination System (NPDES) General Permit due to the size of the proposed project site. More than one acre will be disturbed; therefore an NPDES General Permit is required. Runoff from the Proposed Project could potentially cause soil erosion or the loss of topsoil. Refer to **Chapter 4.7, Water Resources**.

**VII. HAZARDS AND HAZARDOUS MATERIALS**

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Create a significant hazard to the off-Reservation public or the off-Reservation environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
b) Create a significant hazard to the off-Reservation public or the off-Reservation environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed off-Reservation school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose off-Reservation people or structures to a significant risk of loss, injury or death involving wildland fires.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B Some quantity of hazardous materials would be used during the construction and operational stages of the Proposed Project. During construction the most likely possible hazardous materials releases would involve the dripping of fuels, oil, and grease from construction equipment.

C. The proposed project site is not within one quarter-mile of an off-site school.

D. See Chapter 4.10, Public Facilities.

### VIII. WATER RESOURCES

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements off-Reservation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete off-Reservation groundwater supplies or interfere substantially with groundwater recharge such that there should be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
granted)?				
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff off-Reservation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Place within a 100-year flood hazard area structures, which would impede or redirect off-Reservation flood flows?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose off-Reservation 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- A. The Proposed Project would not violate any water quality standards or waste discharge requirements off-Reservation. An NPDES Permit would be required for storm-water discharge. All solid waste removed from the site would be disposed in a permitted landfill.
- B. The Proposed Project would obtain potable water from the Millview Water District.
- C. Stormwater drainage during construction could alter the existing drainage pattern of off-site property due to siltation and erosion. However, a site-specific Stormwater Pollution Prevention Plan (SWPPP) would be prepared prior to construction. Implementation of the SWPPP would result in less than significant impacts to off-Reservation property.

- D. A site drainage and grading study would be performed prior to construction. Recommendations provided would be incorporated into the site planning and design, resulting in no impact off-site property.
- E. Stormwater leaving the site would enter off-Reservation surface waters and could potentially result in substantial additional pollution to off-site surface water. This would be a less than significant impact with incorporation of Best Management Practices (BMPs), including an adequately sized stormwater detention basin, as mitigation measures. An NPDES permit would be required for stormwater discharges leaving the site and entering off-Reservation surface waters. Implementation of the SWPPP would also help to mitigate adverse effects due to stormwater.
- F. Structures would be elevated to avoid impacts from a 100-year flood event.
- G. The Proposed Project would not expose off-Reservation people or structures to a significant risk or loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. Incorporation of BMPs (such as the stormwater detention basin), as specified in the site drainage and grading study, would mitigate potential impacts to off-Reservation flooding impacts. There would be no impact to off-Reservation people or structures due to flooding.

**IX. LAND USE**

Would the Proposed Project:	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Conflict with any off-Reservation land use plan, policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable habitat conservation plan or natural communities conservation plan covering off-Reservation lands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- A. Lands surrounding the proposed project site are classified as Commercial / Industrial. These adjacent uses would not be impacted by the Proposed Project. Development of the Proposed Project would be a less than significant impact to off-Reservation land use.
- B. The Proposed Project would not involve modification of any off-Reservation habitat included within a conservation plan.

**X. MINERAL RESOURCES**

<b>Would the Proposed Project:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Result in the loss of availability of a known off-Reservation mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of an off-Reservation locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

A-B Implementation of the Proposed Project would not adversely impact any known off-Reservation mineral resources. No impact will occur.

**XI. NOISE**

<b>Would the Proposed Project result in:</b>	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Exposure of off-Reservation persons to noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of off-Reservation persons to excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the off-Reservation vicinity of the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the off-Reservation vicinity of the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

A-D The project site is located in a rural desert area with the major sources of noise being U.S. Highway 101 and North State Street, situated immediately west and east of the project site respectively. There are no residences or other sensitive receptors located within a 1-mile radius of the project site.

Additionally, the Proposed Project would not result in a substantial permanent increase in ambient noise levels, in excess of existing conditions, in the off-Reservation vicinity of the project; and would not result in a substantial temporary or periodic increase in ambient noise levels, over existing conditions, in the off-Reservation vicinity of the project. These impacts would be less than significant.

**XII. POPULATION AND HOUSING**

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Induce substantial off-Reservation population growth?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere off-Reservation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- A. No substantial off-Reservation population increases are anticipated.
- B. The Proposed Project will not displace off-Reservation housing.

**XIII. PUBLIC SERVICES**

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered off-Reservation 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 off-Reservation public services:				
Fire protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
Other public facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- A. See **Chapter 4.10, Public Services** for information on fire and police protection, emergency medical, solid waste, electric and natural gas service, and telecommunications. The Proposed Project will not be located within ¼ mile of any schools. The Proposed Project would not have any effect on off-Reservation parks.

**XIV. RECREATION**

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Would the Proposed Project increase the use of existing off-Reservation neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- A. The Proposed Project will not adversely impact off-Reservation recreational opportunities or provide for the maintenance of existing recreational opportunities.

**XV. TRANSPORTATION / TRAFFIC**

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause an increase in off-Reservation 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated off-Reservation roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
c) Substantially increase hazards to an off-Reservation design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access for off-Reservation responders?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

A-D See **Chapter 4.3**, Transportation for detailed discussion of impacts and mitigation measures.

## XVI. UTILITIES AND SERVICE SYSTEMS

Would the Proposed Project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Exceed off-Reservation wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 off-Reservation environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 off-Reservation environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in a determination by an off-Reservation wastewater treatment provider (if applicable), which serves or may serve the Proposed Project that it has adequate capacity to serve the Proposed Project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

A. No off-Reservation treatment of wastewater effluent would occur for the Proposed Project. See **Chapter 4.7**, Water Resources, for details regarding this action.



B-C The Proposed Project will not require the construction or expansion of off-Reservation wastewater treatment facilities or stormwater drainage facilities. Chapter 4.4 discusses this action in detail.

D. Wastewater from the Proposed Project will be treated by the Ukiah Valley Sanitation District.

**XVII. CUMULATIVE EFFECTS**

Would the Proposed Project:	<i>Potentially Significant Impact</i>	<i>Less Than Significant With Mitigation Incorporation</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Have impacts that are individually limited, but cumulatively considerable off-Reservation? "Cumulatively considerable" means that the incremental effects of a Proposed Project are considerable when viewed in connection with the effects of past, current, or probable future projects.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

A. See Chapter 6, Other Considerations, for a detailed discussion.

# ***APPENDIX D***

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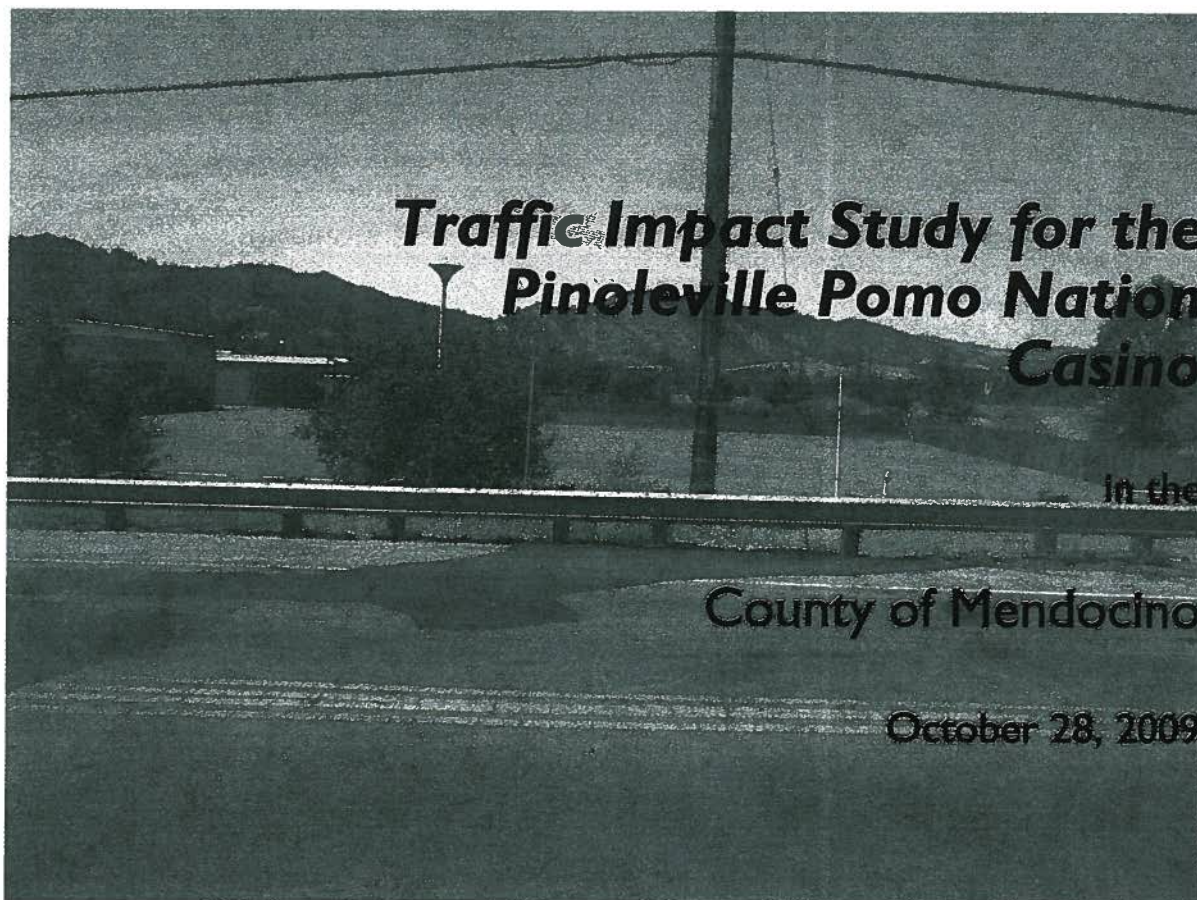
## ***TRAFFIC IMPACT STUDY***



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## Introduction and Study Parameters

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### Introduction

This report presents an analysis of the potential traffic impacts that would be associated with the proposed casino and hotel on the Pinoleville Pomo Nation in Mendocino County just north of the City of Ukiah. The traffic study is consistent with standard traffic engineering techniques.

### Prelude

The purpose of a traffic study is to provide policy makers with data that they can use to make an informed decision regarding the potential traffic impacts of a proposed project, and any associated improvements which would be required in order to mitigate these impacts to a level of insignificance as defined by applicable environmental standards. Traffic impacts are typically evaluated by determining the number of trips the new land use would be expected to generate, distributing these trips to the surrounding street system based on existing travel patterns or anticipated travel patterns specific to the proposed project, and then analyzing the impact the new traffic would be expected to have on critical intersections included in the study area.

### Project Profile

The proposed project would involve the construction of a 90,000 square foot casino with a gaming floor of 28,500 square feet with 900 slot machines and 20 gaming tables. As part of the project a 125-room hotel and supporting parking facilities consisting of a five level parking structure are also proposed. The proposed project will be constructed on the west side of North State Street across from Kunzler Ranch Road. Additional services such as restaurants, dining areas, wine tasting room, kitchens, meeting rooms and guest support facilities are also proposed to be part of the project. The location of the project site is shown in Figure 1.

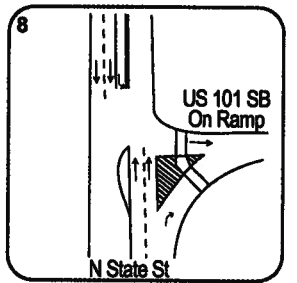
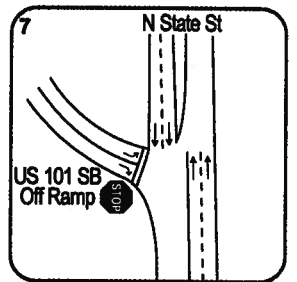
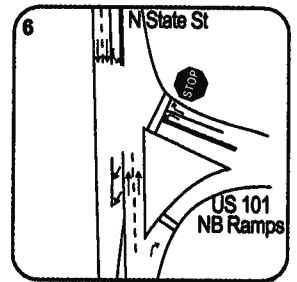
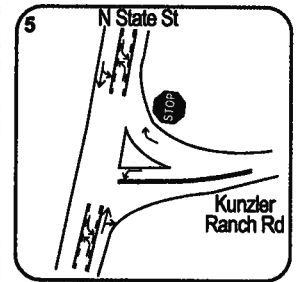
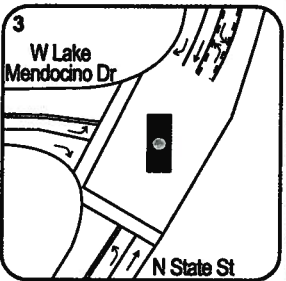
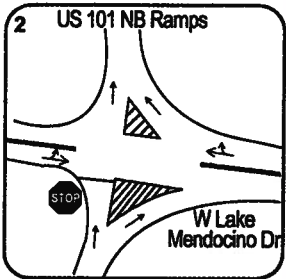
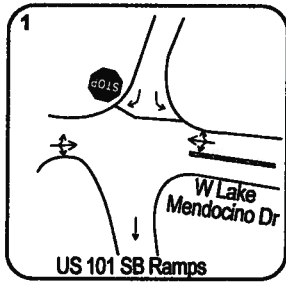
### Study Area and Study Time Periods

The following intersections were evaluated in this study:

1. West Lake Mendocino Drive/US 101 South Ramps
2. West Lake Mendocino Drive/US 101 North Ramps
3. West Lake Mendocino Drive/North State Street
4. North State Street/Project Access
5. North State Street/Kunzler Ranch Road
6. North State Street/US 101 North Ramps
7. North State Street/US 101 South off-ramp
8. North State Street/US 101 South on-ramp

The weekday p.m. and weekend midday peak hours were analyzed as these are the time frames when there is the greatest activity for the proposed casino and hotel uses combined with existing volumes on the surrounding street network.





**LEGEND**  
 ● Study Intersection



Not to Scale  
 MEX069.a1 9/09

## **Traffic Volume Sources**

Turning movement counts were collected at the study intersections in June of 2009 during both peak periods. New machine count data on North State Street north of Kunzler Ranch Road was collected during the same time period. Existing and future traffic volume projections for the study segments of US 101 were developed per information reported on the Traffic and Vehicle Data Systems Unit on the Caltrans website.

## **Level of Service Methodologies**

### Intersection Operation

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, LOS A represents free flow conditions and LOS F represents forced flow or breakdown conditions. The Level of Service designation is generally accompanied by a unit of measure which indicates average delay.

The study intersections were analyzed using the two-way stop-controlled and signalized methodologies from the *Highway Capacity Manual*, Transportation Research Board, 2000 (HCM). This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle. The two-way stop-controlled method determines a level of service for each minor turning movement by estimating the level of average delay in seconds per vehicle. The movement with the highest level of delay is presented as the Worst Case Level of Service. The signalized methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. The ranges of delay associated with the various levels of service are indicated in Table I.

**Table 1  
Intersection Level of Service Criteria**

<b>LOS</b>	<b>Two-Way Stop-Controlled Intersections</b>	<b>Signalized Intersections</b>
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

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

### Freeway Operation

The freeway analysis methodology contained in Chapter 23 of the HCM, "Basic Freeway Segments," was used to determine Levels of Service on US 101. The method uses variables such as traffic volumes, geometric configuration of the freeway (i.e., number of lanes, widths of lanes and shoulders), topography, the percentage of heavy vehicles, and free-flow speeds to determine LOS criteria including the "service flow rate." Service flow rates are indicative of the travel demand on a freeway facility and are measured in the number of passenger cars per hour per lane. The ranges of service flow rates associated with the various Levels of Service are presented in Table 2.

**Table 2  
Freeway Level of Service Criteria**

<b>Level of Service</b>	<b>Maximum Service Flow Rate</b>
A	710 pc/h/ln
B	1,170 pc/h/ln
C	1,680 pc/h/ln
D	2,090 pc/h/ln
E	2,350 pc/h/ln
F	Greater than 2,350 pc/h/ln

Notes: pc/h/ln = passenger cars per hour per lane  
Criteria are for a freeway with 70 mph free-flow speed



## **Traffic Operation Standards**

The study intersections that include freeway ramps are part of the state highway system, so Caltrans' level of service standards were applied at these locations. The standards of the County of Mendocino were applied at the remaining study intersections. Though not a public intersection, the project's primary driveway, which is proposed to be signalized, was evaluated based on standards set by the County of Mendocino.

### County of Mendocino

The County of Mendocino considers LOS D operation at signalized intersections to be the poorest acceptable operation during peak periods. For unsignalized intersections with stop controls on the side street only, the County of Mendocino does not have an adopted Level of Service standard. For the purposes of this study, the following standard was therefore applied to the intersection of North State Street/Kunzler Ranch Road.

On arterial streets it is typical to have most of the side streets operating at LOS E or F during peak hours, with long traffic delays even where side street volumes are very low. The most typical mitigation measure used to reduce delay for side street traffic is installation of a traffic signal, however, it is both operationally undesirable and financially infeasible to provide a traffic signal at every intersection along a road segment. Mitigation measures were therefore considered only when LOS F conditions were projected for the minor movements. The volume of traffic associated with the level of service was also considered. Where lower levels of service were encountered for significant volumes of traffic, signalization or other lane improvements were considered as a potential mitigation to improve operation.

### Caltrans

In the *Guide for the Preparation of Traffic Impact Studies*, Caltrans indicates that they endeavor to maintain operation at the transition from LOS C to LOS D; however, where operation is already below LOS C, the existing measure of effectiveness should be maintained. For intersections, this means that the existing control delay should be maintained. Under this criteria, any increase in delay would therefore result in a significant impact. Since this approach results in impacts that are deemed significant for even a small change in operating conditions, staff at Caltrans was consulted. Discussions with Mr. Marc Birnbaum, the Statewide Advisor for Local Development and Traffic Impact Studies, indicate that for intersections, the standard is to be applied to the overall average intersection delay, not that associated with any single movement or approach.

For freeway facilities, a service flow rate of approximately 1,680 passenger cars per hour per lane represents the threshold between LOS C and LOS D. Where an existing freeway is operating below the LOS C/D threshold, the existing measure of effectiveness should be maintained.

## Existing Conditions

---

### Description of Study Area

*North State Street* is generally a three-lane street with one travel lane in each direction separated by a two-way left-turn lane; however, this street that runs north-south and parallel to the US 101, transitions from a three-lane street south of the project site to a two-lane street along the frontage. The posted speed limit is 45 miles per hour (mph). Sidewalks do not exist along the project frontage or in the surrounding areas.

*Kunzler Ranch Road*, which was previously named Hollow Tree Road, is a two-lane east-west street that has one travel lane in each direction with no center line striping. Intermittent curbs exist along the south side of the street; however, no sidewalks are provided along either side of the road. Kunzler Ranch Road does not have a posted speed limit.

*West Lake Mendocino Drive* is an east-west road with one lane in each direction.

The lane configurations and locations of the study intersections are shown in Figure 1. It should be noted that study intersection number 4 (*North State Street/Project Access*) is not included in certain figures as this intersection won't exist until the project is constructed.

### Collision History

The collision history for the study area was reviewed to determine any trends or patterns that may indicate a safety issue. Collision rates were calculated based on records from October 1, 2005, through September 30, 2008, obtained through the California Highway Patrol and published in their Statewide Integrated Traffic Records System (SWITRS) reports, together with the traffic volumes obtained for this study or available from Caltrans. These calculated rates were then compared to average collision rates for similar facilities statewide, as indicated in *2007 Collision Data on California State Highways (road miles, travel, collisions, collision rates)*, California Department of Transportation. The results of the collision rate analysis are presented in Table 3.

**Table 3  
Collision Rates for the Study Intersections**

<b>Study Intersection</b>	<b>Collisions</b>	<b>Daily Volume Entering</b>	<b>Calculated Collision Rate (c/mve)</b>	<b>Statewide Avg. Collision Rate * (c/mve)</b>
1. W Lake Mendocino/US 101S Ramps	1	4,100	0.22	0.34
2. W Lake Mendocino/US 101N Ramps	0	7,800	0.00	0.34
3. W Lake Mendocino Dr/N State St	0	13,100	0.00	0.43
4. North State Street/Project Access	n/a	n/a	n/a	n/a
5. N State St/Kunzler Ranch Rd	0	10,100	0.00	0.19
6. N State St/US 101N Ramps	6	17,300	<b>0.32</b>	0.19
7. N State St/US 101S off-ramp	2	17,300	0.11	0.19
8. N State St/US 101S on-ramp	4	20,700	0.18	0.19

Notes: c/mve = collisions per million vehicles entering

\* Based on information contained in 2007 Collision Data on California State Highways, Caltrans

As shown in Table 3, North State Street/US 101 North Ramps had a collision rate higher than the statewide average. While this does not, in and of itself, indicate a specific safety concern, this information does indicate that further review is warranted at this study intersection. The remaining study intersections had collision rates less than the statewide average or no collisions during this time frame, which typically indicates that there is not a specific safety problem.

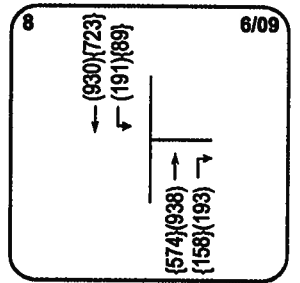
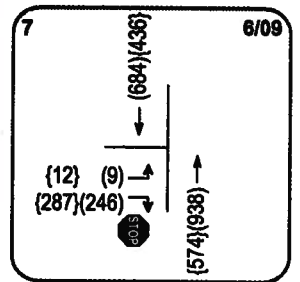
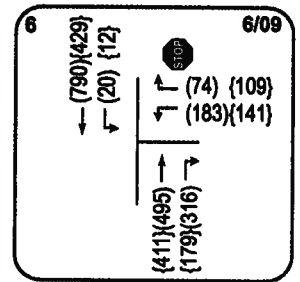
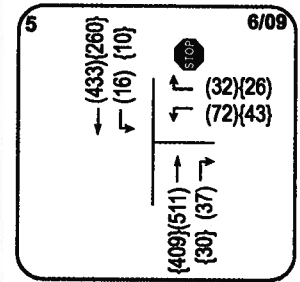
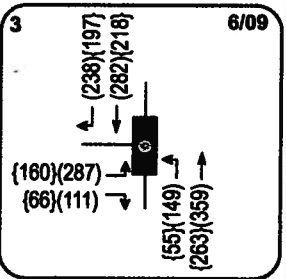
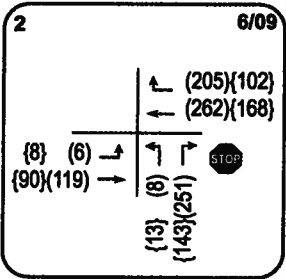
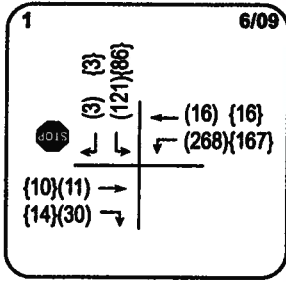
Collisions that occurred at or within 150 feet of North State Street/US 101 North Ramps were looked at more closely to determine if there were any specific patterns. Of the six collisions reported at this intersection, four were broadsides with "auto right-of-way" listed as the primary collision factor. The other collision types consisted of one hit-object and one overturned with "driving under the influence" and "unsafe lane change" listed as the primary collision factors. The preponderance of broadside collisions is an indication that additional right-of-way controls may be needed, though there have not been a sufficient number of these collisions to warrant installation of all-way stop signs. Caltrans or the County of Mendocino may wish to monitor the safety record of this intersection as traffic volumes in the area increase.

Copies of the spreadsheets indicating the collision rate calculations are provided in Appendix A.

### **Existing Conditions**

The Existing Conditions scenario provides an evaluation of traffic operation based on current traffic volumes during the weekday p.m. and weekend midday peak periods.

All of the study intersections are currently operating acceptably at LOS C or better overall and on all movements during both peak periods evaluated based on existing volumes shown in Figure 2.



**LEGEND**

- Study Intersection
- {xx} P.M. Peak Hour Volume
- {xx} Weekend Midday Peak Hour Volume



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The study segments of US 101 operate acceptably at LOS A or B under Existing Conditions.

A summary of the level of service calculations for the study intersections and freeway segments are contained in Table 4 and copies of all LOS calculations are provided in Appendix B.

**Table 4**  
**Summary of Existing Level of Service Calculations**

Intersection <i>Approach</i>	Existing Conditions			
	PM Peak		MD Peak	
	Delay	LOS	Delay	LOS
1. W Lake Mendocino Dr/US 101 SB Ramps <i>Southbound (US 101) Approach</i> <i>Westbound (W Lake Mendocino Dr) Left-Turn</i>	10.7	B	8.3	A
	21.9	C	13.3	B
	7.9	A	7.6	A
2. W Lake Mendocino Dr/US 101 NB Ramps <i>Northbound (US 101) Approach</i> <i>Eastbound (W Lake Mendocino Dr) Left-Turn</i>	3.3	A	3.0	A
	10.5	B	9.6	A
	8.4	A	7.9	A
3. W Lake Mendocino Dr/N State St	22.8	C	17.7	B
4. N State St/Project Access	n/a	n/a	n/a	n/a
5. N State St/Kunzler Ranch Rd <i>Westbound (Kunzler Ranch Rd) Approach</i>	1.6	A	1.2	A
	15.5	C	12.4	B
6. N State St/US 101 NB Ramps <i>Southbound (N. State St) Left-Turn</i> <i>Westbound (Kunzler Ranch Rd) Approach</i>	3.8	A	3.3	A
	8.6	A	8.3	A
	22.5	C	14.0	B
7. N State St/US 101 SB Off-Ramp <i>Eastbound (US 101) Approach</i>	2.1	A	2.9	A
	15.5	C	12.8	B
8. N State St/US 101 SB On-Ramp <i>Southbound (US 101) Left-Turn</i>	1.1	A	0.5	A
	13.3	B	9.5	A
<b>US 101 Freeway Segments</b>	<b>Northbound</b>		<b>Southbound</b>	
<b>PM Peak Hour</b>	<b>Vp</b>	<b>LOS</b>	<b>Vp</b>	<b>LOS</b>
Perkins St to N State St	731	A	894	B
N State St to W Lake Mendocino Dr	718	A	878	B
W Lake Mendocino Dr to Moore St	706	A	863	B

Notes: Delay is in average number of seconds per vehicle; LOS = Level of Service  
Vp = Service flow rate, measured in passenger cars per hour per lane



## Future Conditions

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### Project Description

The project includes construction of a casino on the west side of North State Street across from Kunzler Ranch Road. A 90,000 square foot building is proposed to house 900 gaming machines and 20 card tables, or a total of 1,020 gaming positions assuming six-person tables. A 125-room hotel is also proposed to be located on the site. The proposed casino and hotel will provide a total of 948 parking spaces on the west side of North State Street surrounding the facility, with 685 located in the proposed parking structure.

As part of the project it is proposed that the main access point be signalized. Currently North State Street is being widened along the project frontage. Widening along this segment of North State Street will allow for the extension of the existing two-way left-turn lane along the entire project frontage. The project site plan is shown in Figure 3.

### Trip Generation

For purposes of estimating the number of new trips that proposed projects can be expected to generate, *Trip Generation*, 8<sup>th</sup> Edition, Institute of Transportation Engineers, 2008, is typically used. Published data was used for the hotel component of the project. Since this publication contains limited information on casinos from studies conducted in South Dakota, trip generation data published on California Indian gaming casinos was used for this aspect of the project.

Over the last few years trip generation rates have been developed from limited observations of new casinos in California, though many of the sites observed by W-Trans are considerably smaller than the proposed project. Reference was therefore made to the *Revised Traffic Impact Analysis for Buena Vista Casino Development* by kdAnderson Transportation Engineers and dated March 30, 2005, which contains data from the Chikchansi Gold Casino in Madera County. This report presents trip generation rates on a per square foot basis as well as for the number of gaming positions. Trip generation information was also obtained from the traffic study prepared by Omni•Means for the *Dry Creek Rancheria Economic Develop Master Plan Environmental Study*. Trips associated with the existing 90,000 square foot casino are detailed in this study, and were determined to be more conservative, so were applied. Distribution assumptions from the River Rock Casino (Dry Creek Rancheria) indicate that 51 percent of the p.m. peak hour trips would be headed inbound, while 57 percent would be inbound during the weekend peak hour. These assumptions were applied to the proposed project.

Consideration was given to the complementary nature of the proposed hotel use at the site. Experience with similar sites indicates that there are few hotel guests who are not on the premises specifically because of the casino. This type of facility rarely attracts guests just for lodging. It was therefore assumed that most of the patrons of the hotel would also be casino patrons, and an "internal capture" deduction of 75 percent was applied based on engineering judgement.

It should be noted that the building currently occupying the site on the west side of North State Street is vacant and will be removed as part of the project. Using the combined standard and developed rates, the proposed project would be expected to result in 411 new weekday p.m. peak hour trips and 495 new weekend midday trips, as shown in Table 5.



North  
Not to Scale

Source: Leo A Daly 9/09

MEX009.ai 9/09

# Traffic Impact Study for the Pinoleville Pomo Nation Casino

## County of Mendocino

Figure 3  
Site Plan

**Table 5  
Trip Generation Summary**

Land Use	Units	Weekday PM Peak Hour				Weekend Midday Peak Hour			
		Rate	Trips	In	Out	Rate	Trips	In	Out
Casino	90 ksf	4.350	392	200	192	5.260	473	270	203
Hotel	125 rooms	0.590	74	39	35	0.720	90	50	40
Internal Capture		-75%	-55	-29	-26	-75%	-68	-38	-30
<b>Total</b>			<b>411</b>	<b>210</b>	<b>201</b>		<b>495</b>	<b>282</b>	<b>213</b>

Note: ksf = 1,000 square feet

**Trip Distribution**

The pattern used to allocate new project trips to the street network was determined by reviewing existing peak hour traffic patterns at the study intersections. The applied trip distribution assumptions and associated vehicle trips for the proposed Pinoleville Pomo Nation Casino project are shown in Table 6.

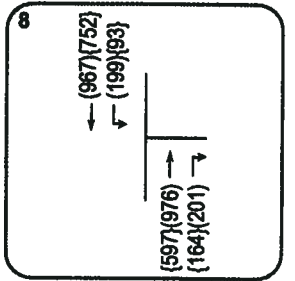
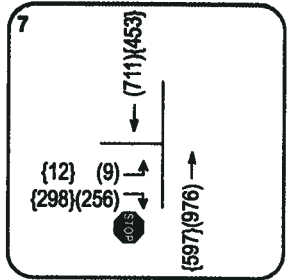
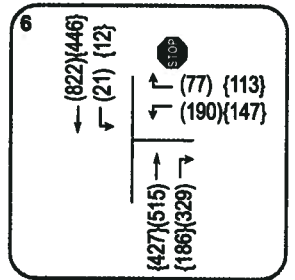
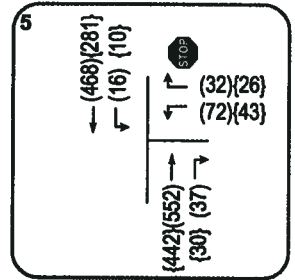
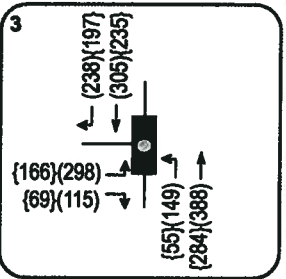
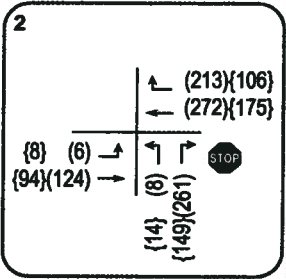
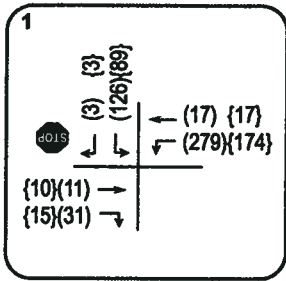
**Table 6  
Trip Distribution/Roadway Segment Vehicle Trips**

Route	Distribution (Percent)	Vehicle Trip Ends Generated	
		Weekday PM Peak	Weekend Midday Peak
US 101 (north of W Lake Mendocino Dr)	30%	123	149
US 101 (south of N State St)	50%	205	247
N State St (north of W Lake Mendocino Dr)	5%	21	25
N State St (south of US 101)	15%	62	74
<b>Total Trips</b>	<b>100%</b>	<b>411</b>	<b>495</b>

**Baseline Conditions**

It was assumed that the project would be completed and occupied in 2012, although baseline volumes were conservatively based on projected 2014 conditions. Volumes for this Baseline year were developed using a straight-line projection between existing volumes and anticipated future volumes. Under Baseline Conditions, the study intersections are expected to continue operating at LOS C or better overall and on all movements during both peak periods evaluated. The study segments of US 101 operate acceptably at LOS B under Baseline Conditions. Baseline volumes are shown in Figure 4, and anticipated operating conditions are summarized in Table 7.





**LEGEND**  
 ● Study Intersection  
 (xx) P.M. Peak Hour Volume  
 {xx} Weekend Midday Peak Hour Volume



MEX069.ai 9/09

Traffic Impact Study for the Pinoleville Pomo Nation Casino  
 County of Mendocino

Figure 4  
 Baseline Traffic Volumes

**Table 7**  
**Summary of Baseline Intersection Level of Service Calculations**

Intersection Approach	Baseline Conditions				Baseline plus Project			
	PM Peak		MD Peak		PM Peak		MD Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. W Lake Mendocino Dr/US 101 SB Ramps <i>SB (US 101) Approach</i> <i>WB (W Lake Mendocino Dr) Left-Turn</i>	11.5	B	8.7	A	12.3	B	9.7	A
	22.4	C	13.8	B	23.0	C	14.3	B
	7.9	A	7.6	A	7.9	A	7.6	A
2. W Lake Mendocino Dr/US 101 NB Ramps <i>NB (US 101) Approach</i> <i>EB (W Lake Mendocino Dr) Left-Turn</i>	3.3	A	3.0	A	3.3	A	3.0	A
	10.6	B	9.7	A	11.1	B	10.2	B
	8.5	A	8.0	A	8.5	A	8.0	A
3. W Lake Mendocino Dr/N State St	22.9	C	18.4	B	23.0	C	20.3	C
4. N State St/Project Access	n/a	n/a	n/a	n/a	16.7	B	19.6	B
5. N State St/Kunzler Ranch Rd <i>WB (Kunzler Ranch Rd) Approach</i>	1.6	A	1.2	A	1.7	A	1.3	A
	16.4	C	13.6	B	18.1	C	14.7	B
6. N State St/US 101 NB Ramps <i>SB (N State St) Left-Turn</i> <i>WB (Kunzler Ranch Rd) Approach</i>	3.8	A	3.4	A	3.9	A	3.8	A
	8.6	A	8.3	A	8.6	A	8.3	A
	23.4	C	14.8	B	24.5	C	16.7	C
7. N State St/US 101 SB Off-Ramp <i>EB (US 101) Approach</i>	2.1	A	2.9	A	2.1	A	2.9	A
	15.9	C	13.3	B	16.6	C	14.0	B
8. N State St/US 101 SB On-Ramp <i>SB (US 101) Left-Turn</i>	1.5	A	0.8	A	2.0	A	1.1	A
	13.9	B	9.7	A	17.1	C	10.7	B
<b>US 101 Freeway Segments</b>	<b>Northbound Southbound</b>				<b>Northbound Southbound</b>			
<b>PM Peak Hour</b>	<b>Vp</b>	<b>LOS</b>	<b>Vp</b>	<b>LOS</b>	<b>Vp</b>	<b>LOS</b>	<b>Vp</b>	<b>LOS</b>
Perkins St to N State St	826	B	1099	B	888	B	1068	B
N State St to W Lake Mendocino Dr	811	B	991	B	815	B	995	B
W Lake Mendocino Dr to Moore St	797	B	974	B	832	B	1011	B

Notes: Delay is in average number of seconds per vehicle; LOS = Level of Service  
Vp = Service flow rate, measured in passenger cars per hour per lane

**Baseline plus Project Conditions**

With the addition of project-related trips to baseline traffic volumes, the study intersections are expected to continue operating at LOS C or better overall and on all movements during both peak periods evaluated.

The study segments of US 101 are expected to continue to operate acceptably at LOS B under Baseline Conditions with the addition of project related traffic. The proposed project volumes are shown in Figure 5, and anticipated operating conditions for Baseline Conditions with occupation of the project are summarized in Table 7.

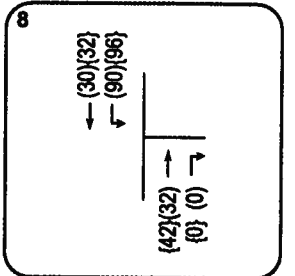
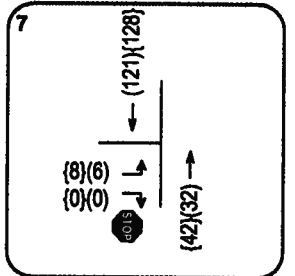
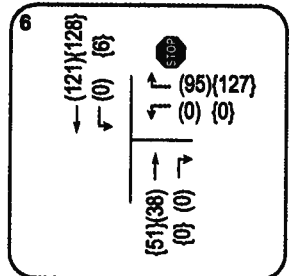
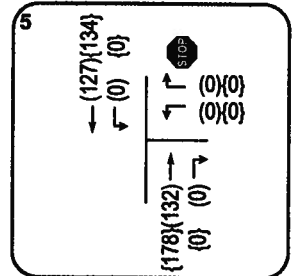
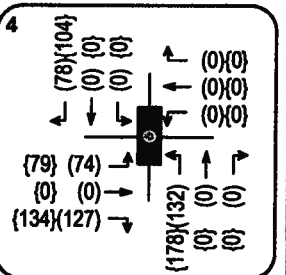
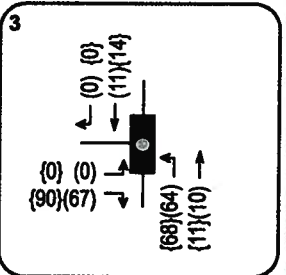
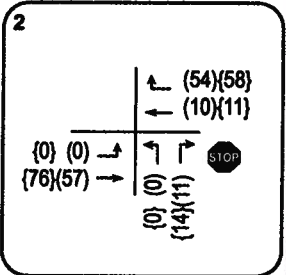
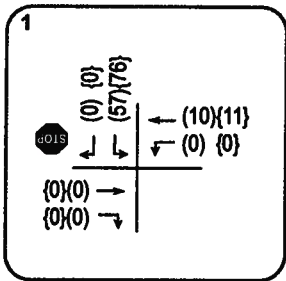
A review of the Peak Hour Volume Warrant indicates that a traffic signal is warranted at the project's primary access point, so it is recommended that the signal be installed as proposed.

### **Future Conditions**

Based on information provided by Caltrans and the City of Ukiah, traffic in the area surrounding the project site is expected to increase by a factor of between 1.16 and 1.30 over the next 20 years. Since neither the County of Mendocino nor the City of Ukiah has future volume projections, these growth factors were conservatively applied to existing volumes for each movement at all study intersections.

Under the projected future volumes all of the study intersections are expected to operate overall as well as on individual movements at LOS C or better during both peak periods evaluated. The study segments of US 101 are also projected to operate acceptably at LOS C or better under Future Conditions.

The projected Future traffic volumes are shown in Figure 6. The resulting intersection and freeway segment levels of service are shown in Table 8.

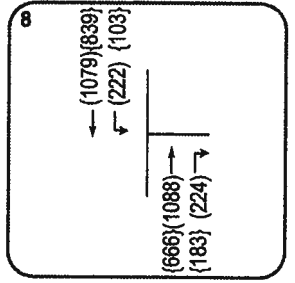
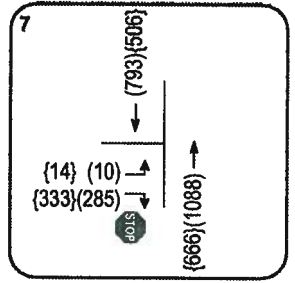
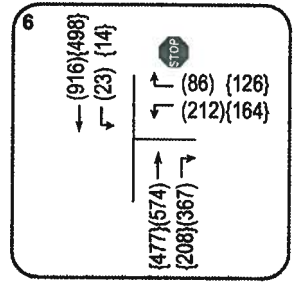
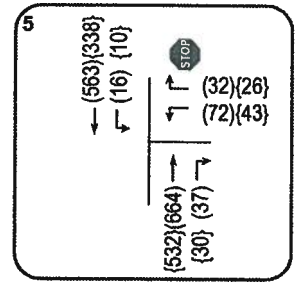
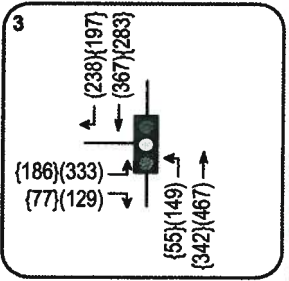
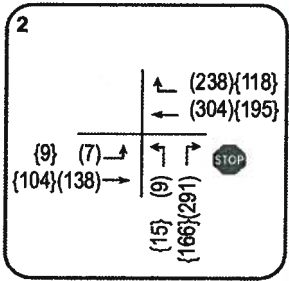
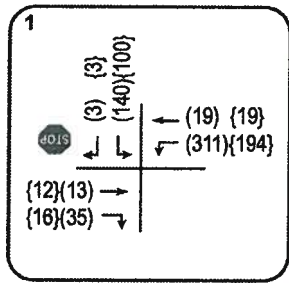


**LEGEND**  
 ● Study Intersection  
 (xx) P.M. Peak Hour Volume  
 {xx} Weekend Midday Peak Hour Volume



Not to Scale  
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**LEGEND**  
 ● Study Intersection  
 (xx) P.M. Peak Hour Volume  
 {xx} Weekend Midday Peak Hour Volume

North  
 Not to Scale

MEX069.ai 9/09

**Table 8  
Summary of Future Level of Service Calculations**

Intersection Approach	Future Conditions				Future plus Project			
	PM Peak		MD Peak		PM Peak		MD Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. W Lake Mendocino Dr/US 101 SB Ramps SB (US 101) Approach WB (W Lake Mendocino Dr) Left-Turn	13.3	B	9.9	A	14.5	B	10.2	B
	24.8	C	15.1	C	24.9	C	15.7	C
	8.0	A	7.7	A	8.1	A	7.8	A
2. W Lake Mendocino Dr/US 101 NB Ramps NB (US 101) Approach EB (W Lake Mendocino Dr) Left-Turn	3.4	A	3.0	A	3.5	A	3.1	A
	11.2	B	10.3	B	11.6	B	10.4	B
	8.6	A	8.1	A	8.7	A	8.1	A
3. W Lake Mendocino Dr/N State St	23.5	C	21.2	C	24.5	C	22.8	C
4. N State St/Project Access	n/a	n/a	n/a	n/a	17.4	B	20.9	C
5. N State St/Kunzler Ranch Rd WB (Kunzler Ranch Rd) Approach	1.8	A	1.4	A	2.0	A	1.8	A
	18.9	C	15.4	C	21.2	C	16.3	C
6. N State St/US 101 NB Ramps SB (N State St) Left-Turn WB (Kunzler Ranch Rd) Approach	4.2	A	4.1	A	4.8	A	4.1	A
	8.7	A	8.4	A	8.8	A	8.5	A
	24.8	C	17.8	C	24.9	C	19.3	C
7. N State St/US 101 SB Off-Ramp EB (US 101) Approach	2.3	A	3.1	A	2.5	A	3.3	A
	17.6	C	14.8	B	19.4	C	15.6	C
8. N State St/US 101 SB On-Ramp SB (US 101) Left-Turn	2.4	A	1.6	A	2.5	A	1.8	A
	18.4	C	11.1	B	22.0	C	11.4	B
<b>US 101 Freeway Segments</b>	<b>Northbound Southbound</b>				<b>Northbound Southbound</b>			
<b>PM Peak Hour</b>	<b>Vp</b>	<b>LOS</b>	<b>Vp</b>	<b>LOS</b>	<b>Vp</b>	<b>LOS</b>	<b>Vp</b>	<b>LOS</b>
Perkins St to N State St	1142	B	1396	C	1203	B	1455	C
N State St to W Lake Mendocino Dr	1122	B	1372	C	1125	B	1375	C
W Lake Mendocino Dr to Moore St	1102	B	1347	C	1137	B	1384	C

Notes: Delay is in average number of seconds per vehicle; LOS = Level of Service  
Vp = Service flow rate, measured in passenger cars per hour per lane

**Future plus Project Conditions**

The Future plus Project Conditions scenario presents an evaluation of the potential traffic impacts which are expected to occur with the addition of traffic from the proposed project to projected future traffic

levels. Under these conditions, acceptable operation is expected for the intersections on an overall basis as well as on individual movements during both peak periods evaluated. The study segments of US 101 are likewise projected to operate acceptably at LOS C or better under Future plus Project Conditions.

The LOS results are summarized in Table 8 and calculation sheets are provided in Appendix B.

### **Alternative Transportation Facilities**

There are no pedestrian or bicycle facilities in the vicinity of the project site; pedestrians and bicyclists share the roadway with vehicles. The streets serving the proposed casino site are rural in nature, so would not typically be expected to have sidewalks or bike lanes.

Given the relatively low volumes and speeds, cyclists can reasonably be expected to share the roadway with motorists, as is done on other similar streets. Despite the lack of dedicated facilities, bicycling appears to be a viable transportation option so adequate on-site bicycle parking should be made available for casino and hotel employees.

Because the project has the potential to generate pedestrian and bicycle traffic, as part of the project sidewalks should be provided on North State Street along the project frontage.

Fixed route transit services in the study area are provided by Mendocino Transit Authority (MTA). Existing transit services, which are presently underutilized, are expected to adequately accommodate any increase in demand due to the project.

### **Site Access and Sight Distance**

Access to the site is proposed via three driveways on the west side of North State Street, to be located approximately 100, 350 and 475 feet north of Kunzler Ranch Road. A signal is proposed to be installed at the main access point located approximately 350 feet north of Kunzler Ranch Road.

Sight distances from the location of the proposed project access driveways on North State Street were evaluated based on stopping sight distance criteria contained in Caltrans' *Highway Design Manual*, 6<sup>th</sup> Edition. The speed limit on North State Street is posted at 45 miles per hour (mph). A private road intersection on this segment of North State Street should have sight distance of at least 360 feet. Available sight distances along North State Street from all three proposed driveways exceed minimum sight distance requirements for prevailing speeds of 45 mph. Sight distance at all of the proposed driveways is expected to be more than adequate.

Any proposed landscaping and signs to be located along North State Street should be set back or low-lying to maintain clear lines of sight.

### **Parking Adequacy**

The project as proposed has a total of 948 parking spaces which includes a five-story parking structure with 685 parking spaces. Casino parking generation rates from other cities, as given in *Parking Standards* by the American Planning Association, were examined in order to determine a reasonable parking generation rate for the proposed Pinoleville Pomo Nation Casino. Rates for larger cities like Las Vegas, Reno and

Henderson, Nevada were considered inappropriate for application to the proposed project as these cities are much larger urban areas with a high concentration of other nearby casinos. Instead, casino parking generation rates from Winnemucca, Nevada, which has a population which is much more similar to the study area, were applied.

The City of Winnemucca requires one parking space per 50 square feet of usable area of dining room, bar, gaming, and dancing space, plus one parking space per two employees. Based on the site plan, approximately 45,000 square feet of the proposed 90,000 square foot casino would be considered usable space. Application of the parking rate of one space per 50 square feet of usable spaces translates to a requirement for the Pinoleville Pomo Nation Casino of 900 guest parking spaces. The proposed supply of 948 spaces is expected to be adequate, with an excess of 48 parking spaces. Based on a rate of one parking space for every two employees, the 48 excess spaces allow for a maximum of 96 employees to be at the proposed Pinoleville Pomo Nation Casino at any one time. Due to the overlap of hotel guests and casino patrons, parking rates for the proposed hotel were not included in the parking analysis. Evaluating both uses separately would lead to recommendations to provide more parking supply than what is needed.



## **Impacts and Recommendations**

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*Impact:* The study intersections are expected to continue operating acceptably overall and on all movements during both peak periods evaluated upon the addition of project-generated trips to baseline and future volumes.

*Recommendation:* None.

*Impacts:* Walking to the project site does not appear to be viable; however, facilities are needed to serve pedestrian traffic traveling around the site.

*Recommendation:* Provide sidewalk on North State Street along the project frontage.

*Impact:* Existing transit services are expected to adequately accommodate any increase in demand due to the project.

*Recommendation:* None.

*Impact:* Bicycling is a viable mode choice, but would be infeasible without facilities for locking up bicycles on-site; this would be a significant impact

*Recommendation:* Provide bike parking facilities for employees and guests.

*Impact:* Site access and sight distance are expected to be adequate as proposed provided that any landscaping and signs are not introduced that would limit sight lines.

*Recommendation:* The proposed landscaping and sign near North State Street should be set back or low-lying to maintain clear lines of sight.

*Impact:* The proposed supply of 948 parking spaces is expected to meet the parking demand for the size of the project given that the largest employee shift consists of a maximum of 96 persons.

*Recommendation:* Additional parking should be made available for employee shifts greater than 96 persons.

## Conclusions and Recommendations

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### Conclusions

- The study intersection of North State Street/US 101 North Ramps had a collision rate higher than the statewide average rate for similar intersections during the three-year study period.
- All of the study intersections and freeway segments are currently operating at levels of service that are considered acceptable by the agency having jurisdiction, and are expected to continue doing so under projected Baseline and Future volumes.
- The project is expected to generate an average of 411 new p.m. peak hour trips and 495 new weekend midday peak hour trips.
- All of the study intersections and freeway segments are expected to continue operating acceptably with the addition of project-generated traffic to Baseline and Future volumes.
- Sight distance from and at all of the project driveways is expected to be adequate.
- There are no pedestrian or bicycle facilities in the vicinity of the project site.
- Transit access to the project site is expected to be adequate.
- With employee shifts equal of 96 persons or less, the proposed parking supply is expected to be adequate.

### Recommendations

- It is recommended that any proposed landscaping and signs along North State Street be set back and kept low-lying in order to maintain adequate sight distance from all of the proposed driveways.
- Adequate on-site bicycle parking should be provided for casino and hotel employees and guests.
- The proposed project should provide one parking space for every two employees, so additional parking would be needed for shifts with more than 96 employees.
- Provide sidewalk on North State Street along the project frontage.

## Study Participants and References

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### Study Participants

Principal-in-Charge: Dalene J. Whitlock PE, PTOE  
Transportation Planner: Chris Helmer  
Technician/Graphics: Deborah Dunn  
Editing/Formatting: Angela McCoy

### References

*2007 Collision Data on California State Highways (road miles, travel, collisions, collision rates)*, California Department of Transportation, 2007  
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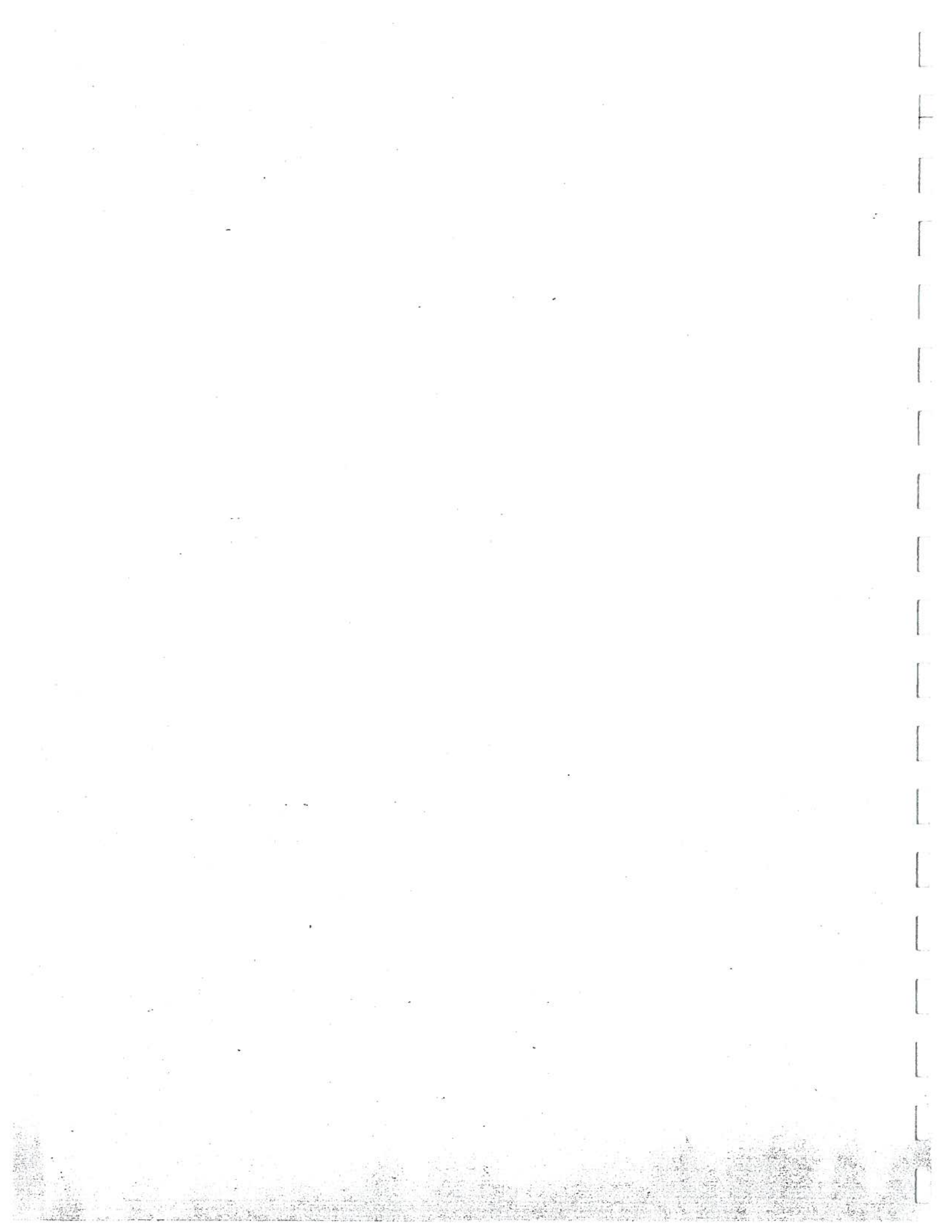
MEX069



## Appendix A

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### Collision Rate Spreadsheets



**INTERSECTION COLLISION CALCULATIONS**

**Pinoleville Pomo Nation Casino**

**Intersection # 1:** W. Lake Mendocino Dr & US 101 SB Ramps  
**Date of Count:** Thursday, June 25, 2009

**Number of Collisions:** 1  
**Number of Injuries:** 1  
**Number of Fatalities:** 0  
**ADT:** 4100  
**Start Date:** October 1, 2005  
**End Date:** September 30, 2008  
**Number of Years:** 3

**Intersection Type:** FOUR-LEGGED  
**Control Type:** STOP & YIELD SIC  
**Area:** SUBURBAN

$$\text{collision rate} = \frac{\text{NUMBER OF COLLISIONS} \times 1 \text{ MILLION}}{\text{ADT} \times 365 \text{ DAYS PER YEAR} \times \text{NUMBER OF YEARS}}$$

$$\text{collision rate} = \frac{1}{4,100} \times \frac{1,000,000}{365 \times 3}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.22 c/mve	0.0%	100.0%
Statewide Average*	0.34 c/mve	1.2%	40.4%

ADT = average daily total vehicles entering Intersection (adjusted for seasonal & weekday changes)  
 c/mve = collisions per million vehicles entering intersection  
 \* 2007 Collision Data on California State Highways, Caltrans

**Intersection # 2:** W. Lake Mendocino Dr & US 101 NB Ramps  
**Date of Count:** Thursday, June 25, 2009

**Number of Collisions:** 0  
**Number of Injuries:** 0  
**Number of Fatalities:** 0  
**ADT:** 7800  
**Start Date:** October 1, 2005  
**End Date:** September 30, 2008  
**Number of Years:** 3

**Intersection Type:** FOUR-LEGGED  
**Control Type:** STOP & YIELD SIC  
**Area:** SUBURBAN

$$\text{collision rate} = \frac{\text{NUMBER OF COLLISIONS} \times 1 \text{ MILLION}}{\text{ADT} \times 365 \text{ DAYS PER YEAR} \times \text{NUMBER OF YEARS}}$$

$$\text{collision rate} = \frac{0}{7,800} \times \frac{1,000,000}{365 \times 3}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.00 c/mve	0.0%	0.0%
Statewide Average*	0.34 c/mve	1.2%	40.4%

ADT = average daily total vehicles entering intersection (adjusted for seasonal & weekday changes)  
 c/mve = collisions per million vehicles entering intersection  
 \* 2007 Collision Data on California State Highways, Caltrans



**INTERSECTION COLLISION CALCULATIONS**

**Pinoleville Pomo Nation Casino**

**Intersection # 3: W. Lake Mendocino Dr. & N. State St.**

**Date of Count: Thursday, June 25, 2009**

**Number of Collisions: 0**  
**Number of Injuries: 0**  
**Number of Fatalities: 0**  
**ADT: 13100**  
**Start Date: October 1, 2005**  
**End Date: September 30, 2008**  
**Number of Years: 3**

**Intersection Type: TEE**  
**Control Type: SIGNALS**  
**Area: SUBURBAN**

$$\text{collision rate} = \frac{\text{NUMBER OF COLLISIONS} \times 1 \text{ MILLION}}{\text{ADT} \times 365 \text{ DAYS PER YEAR} \times \text{NUMBER OF YEARS}}$$

$$\text{collision rate} = \frac{0}{13,100} \times \frac{1,000,000}{365 \times 3}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.00 c/mve	0.0%	0.0%
Statewide Average*	0.43 c/mve	0.2%	38.9%

ADT = average daily total vehicles entering Intersection (adjusted for seasonal & weekday changes)

c/mve = collisions per million vehicles entering intersection

\* 2007 Collision Data on California State Highways, Caltrans

**Intersection # 5: N. State St. & Kunzler Ranch Rd**

**Date of Count: Thursday, June 25, 2009**

**Number of Collisions: 0**  
**Number of Injuries: 0**  
**Number of Fatalities: 0**  
**ADT: 10100**  
**Start Date: October 1, 2005**  
**End Date: September 30, 2009**  
**Number of Years: 3**

**Intersection Type: TEE**  
**Control Type: STOP & YIELD SIG**  
**Area: SUBURBAN**

$$\text{collision rate} = \frac{\text{NUMBER OF COLLISIONS} \times 1 \text{ MILLION}}{\text{ADT} \times 365 \text{ DAYS PER YEAR} \times \text{NUMBER OF YEARS}}$$

$$\text{collision rate} = \frac{0}{10,100} \times \frac{1,000,000}{365 \times 3}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.00 c/mve	0.0%	0.0%
Statewide Average*	0.19 c/mve	0.9%	40.5%

ADT = average daily total vehicles entering Intersection (adjusted for seasonal & weekday changes)

c/mve = collisions per million vehicles entering intersection

\* 2007 Collision Data on California State Highways, Caltrans

**INTERSECTION COLLISION CALCULATIONS**

**Pinoleville Pomo Nation Casino**

**Intersection # 6: N. State St. & US 101 NB Ramps**

**Date of Count: Thursday, June 25, 2009**

**Number of Collisions: 6**

**Number of Injuries: 6**

**Number of Fatalities: 1**

**ADT: 17300**

**Start Date: October 1, 2005**

**End Date: September 30, 2009**

**Number of Years: 3**

**Intersection Type: TEE**

**Control Type: STOP & YIELD SK**

**Area: SUBURBAN**

$$\text{collision rate} = \frac{\text{NUMBER OF COLLISIONS} \times 1 \text{ MILLION}}{\text{ADT} \times 365 \text{ DAYS PER YEAR} \times \text{NUMBER OF YEARS}}$$

$$\text{collision rate} = \frac{6}{17,300} \times \frac{1,000,000}{365 \times 3}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.32 c/mve	16.7%	100.0%
Statewide Average*	0.19 c/mve	0.9%	40.5%

ADT = average daily total vehicles entering intersection (adjusted for seasonal & weekday changes)

c/mve = collisions per million vehicles entering intersection

\* 2007 Collision Data on California State Highways, Caltrans

**Intersection # 7: N. State St. & US 101 SB Ramp Off-Ramp**

**Date of Count: Thursday, June 25, 2009**

**Number of Collisions: 2**

**Number of Injuries: 0**

**Number of Fatalities: 0**

**ADT: 17300**

**Start Date: October 1, 2005**

**End Date: September 30, 2008**

**Number of Years: 3**

**Intersection Type: TEE**

**Control Type: STOP & YIELD SK**

**Area: SUBURBAN**

$$\text{collision rate} = \frac{\text{NUMBER OF COLLISIONS} \times 1 \text{ MILLION}}{\text{ADT} \times 365 \text{ DAYS PER YEAR} \times \text{NUMBER OF YEARS}}$$

$$\text{collision rate} = \frac{2}{17,300} \times \frac{1,000,000}{365 \times 3}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.11 c/mve	0.0%	0.0%
Statewide Average*	0.19 c/mve	0.9%	40.5%

ADT = average daily total vehicles entering intersection (adjusted for seasonal & weekday changes)

c/mve = collisions per million vehicles entering intersection

\* 2007 Collision Data on California State Highways, Caltrans

**INTERSECTION COLLISION CALCULATIONS**

**Pinoleville Pomo Nation Casino**

**Intersection # 8: N. State St. & US 101 SB On-Ramp**

**Date of Count: Thursday, June 25, 2009**

**Number of Collisions: 4**

**Number of Injuries: 4**

**Number of Fatalities: 0**

**ADT: 20700**

**Start Date: October 1, 2005**

**End Date: September 30, 2009**

**Number of Years: 3**

**Intersection Type: TEE**

**Control Type: STOP & YIELD SK**

**Area: SUBURBAN**

$$\text{collision rate} = \frac{\text{NUMBER OF COLLISIONS} \times 1 \text{ MILLION}}{\text{ADT} \times 365 \text{ DAYS PER YEAR} \times \text{NUMBER OF YEARS}}$$

$$\text{collision rate} = \frac{4}{20,700} \times \frac{1,000,000}{365 \times 3}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.18 c/mve	0.0%	100.0%
Statewide Average*	0.19 c/mve	0.9%	40.5%

ADT = average daily total vehicles entering intersection (adjusted for seasonal & weekday changes)

c/mve = collisions per million vehicles entering intersection

\* 2007 Collision Data on California State Highways, Caltrans

## Appendix B

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### Level of Service Calculations





PM Peak Hour - Existing Conditions  
TIS for the Pinocheville Pomo Nation Casino  
County of Mendocino

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)  
\*\*\*\*\*  
Intersection #1 W Lake Mendocino Dr/US 101 SB Ramps  
\*\*\*\*\*

Average Delay (sec/veh): 10.7 Worst Case Level of Service: C [ 21.9 ]  
\*\*\*\*\*

Street Name: US 101 SB Ramps W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0

Volume Module: >> Count Date: 25 Jun 2009 << 4:30 - 5:30 pm  
Base Vol: 0 0 121 0 3 0 11 30 268 16 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 121 0 3 0 11 30 268 16 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86  
PHF Volume: 0 0 140 0 3 0 13 35 311 19 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 140 0 3 0 13 35 311 19 0

Critical Gap Module:  
Critical Gp:xxxxx xxxx xxxxx 6.4 xxxx 6.2 xxxxx xxxx xxxxx 4.1 xxxx xxxxx  
FollowUpTim:xxxxx xxxx xxxxx 3.5 xxxx 3.3 xxxxx xxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:  
Conflict Vol: xxxx xxxx xxxxx 670 xxxx 19 xxxx xxxx xxxxx 48 xxxx xxxxx  
Potent Cap.: xxxx xxxx xxxxx 425 xxxx 1066 xxxx xxxx xxxxx 1573 xxxx xxxxx  
Move Cap.: xxxx xxxx xxxxx 347 xxxx 1066 xxxx xxxx xxxxx 1573 xxxx xxxxx  
Volume/Cap: xxxx xxxx xxxxx 0.40 xxxx 0.00 xxxx xxxx xxxxx 0.20 xxxx xxxxx

Level of Service Module:  
2Way95thQ: xxxx xxxx xxxxx 1.9 xxxx 0.0 xxxxx xxxx xxxxx 0.7 xxxx xxxxx  
Control Del:xxxxx xxxx xxxxx 22.2 xxxx 8.4 xxxxx xxxx xxxxx 7.9 xxxx xxxxx  
LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* 21.9 \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: xxxxxx \* \* \* \* \* xxxxxx \* \* \* \* \*  
ApproachLOS: \* \* \* \* \* C \* \* \* \* \*  
\*\*\*\*\*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Weekend Midday Peak Hour - Existing Conditions  
TIS for the Pinocheville Pomo Nation Casino  
County of Mendocino

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)  
\*\*\*\*\*  
Intersection #1 W Lake Mendocino Dr/US 101 SB Ramps  
\*\*\*\*\*

Average Delay (sec/veh): 8.3 Worst Case Level of Service: B [ 13.3 ]  
\*\*\*\*\*

Street Name: US 101 SB Ramps W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0

Volume Module: >> Count Date: 27 Jun 2009 << 12:00 - 1:00 pm  
Base Vol: 0 0 86 0 86 0 3 0 10 14 167 16 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 86 0 86 0 3 0 10 14 167 16 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86  
PHF Volume: 0 0 100 0 3 0 12 16 194 19 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 100 0 3 0 12 16 194 19 0

Critical Gap Module:  
Critical Gp:xxxxx xxxx xxxxx 6.4 xxxx 6.2 xxxxx xxxx xxxxx 4.1 xxxx xxxxx  
FollowUpTim:xxxxx xxxx xxxxx 3.5 xxxx 3.3 xxxxx xxxx xxxxx 2.2 xxxx xxxxx

Capacity Module:  
Conflict Vol: xxxx xxxx xxxxx 427 xxxx 19 xxxx xxxx xxxxx 28 xxxx xxxxx  
Potent Cap.: xxxx xxxx xxxxx 588 xxxx 1066 xxxx xxxx xxxxx 1599 xxxx xxxxx  
Move Cap.: xxxx xxxx xxxxx 527 xxxx 1066 xxxx xxxx xxxxx 1599 xxxx xxxxx  
Volume/Cap: xxxx xxxx xxxxx 0.19 xxxx 0.00 xxxx xxxx xxxxx 0.12 xxxx xxxxx

Level of Service Module:  
2Way95thQ: xxxx xxxx xxxxx 0.7 xxxx 0.0 xxxxx xxxx xxxxx 0.4 xxxx xxxxx  
Control Del:xxxxx xxxx xxxxx 13.4 xxxx 8.4 xxxxx xxxx xxxxx 7.6 xxxx xxxxx  
LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx  
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared LOS: \* \* \* \* \* 13.3 \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: xxxxxx \* \* \* \* \* xxxxxx \* \* \* \* \*  
ApproachLOS: \* \* \* \* \* B \* \* \* \* \*  
\*\*\*\*\*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*



PM Peak Hour - Existing Conditions  
TIS for the Pinoleville Pomo Nation Casino  
County of Mendocino

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)  
Intersection #2 W Lake Mendocino Dr/US 101 NB Ramps

Average Delay (sec/veh): 3.3 Worst Case Level of Service: B [ 10.5]

Street Name: US 101 NB Ramps W Lake Mendocino Dr

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled

Rights: Include Include Include Include

Lanes: 0 1 0 0 1 0 0 0 0 0 1 0 0 0 0 0 1 0

Volume Module: >> Count Date: 25 Jun 2009 << 4:30 - 5:30 pm

Base Vol: 8 0 251 0 0 0 6 119 0 0 262 205

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 8 0 251 0 0 0 6 119 0 0 262 205

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93

PHF Volume: 9 0 270 0 0 0 6 128 0 0 282 221

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Final Volume: 9 0 270 0 0 0 6 128 0 0 282 221

Critical Gap Module:

Critical Gap: 6.4 6.5 6.2 XXXXX XXXX XXXXX 4.1 XXXX XXXXX XXXX XXXX XXXXX

FollowOptim: 3.5 4.0 3.3 XXXXX XXXX XXXXX 2.2 XXXX XXXXX XXXX XXXX XXXXX

Capacity Module:

Conflict Vol: 533 644 128 XXXX XXXX XXXXX 503 XXXX XXXXX XXXX XXXX XXXXX

Potent Cap: 511 394 927 XXXX XXXX XXXXX 1072 XXXX XXXXX XXXX XXXX XXXXX

Move Cap: 508 392 927 XXXX XXXX XXXXX 1072 XXXX XXXXX XXXX XXXX XXXXX

Volume/Cap: 0.02 0.00 0.29 XXXX XXXX XXXX 0.01 XXXX XXXX XXXX XXXX XXXXX

Level of Service Module:

2Way95thQ: XXXX XXXX 1.2 XXXX XXXX XXXXX 0.0 XXXX XXXXX XXXX XXXX XXXXX

Control Del: XXXXX XXXX 10.5 XXXXX XXXX XXXXX 8.4 XXXX XXXXX XXXX XXXX XXXXX

LOS by Move: \* \* \* B \* \* \* A \* \* \* A \* \* \*

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap: 508 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX

Shared Queue: 0.1 XXXX XXXXX XXXXX XXXX XXXXX 0.0 XXXX XXXXX XXXX XXXX XXXXX

Shrd ConDel: 12.2 XXXX XXXXX XXXXX XXXX XXXXX 8.4 XXXX XXXXX XXXX XXXX XXXXX

Shared LOS: B \* \* \* A \* \* \* A \* \* \*

ApproachDel: 10.5 XXXXX XXXXX XXXXX XXXXX

ApproachLOS: B \* \* \* XXXXXX \* \* \* XXXXXX \* \* \*

Note: Queue reported is the number of cars per lane.

Traffic 7.9.0415 (c) 2007 Dowling Assoc. Licensed to W-TRANS, Santa Rosa, CA

Weekend Midday Peak Hour - Existing Conditions  
TIS for the Pinoleville Pomo Nation Casino  
County of Mendocino

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)  
Intersection #2 W Lake Mendocino Dr/US 101 NB Ramps

Average Delay (sec/veh): 3.0 Worst Case Level of Service: A [ 9.6]

Street Name: US 101 NB Ramps W Lake Mendocino Dr

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled

Rights: Include Include Include Include

Lanes: 0 1 0 0 1 0 0 0 0 0 1 0 0 0 0 1 0

Volume Module: >> Count Date: 27 Jun 2009 << 12:00 - 1:00 pm

Base Vol: 13 0 143 0 0 0 8 90 0 0 168 102

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 13 0 143 0 0 0 8 90 0 0 168 102

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89

PHF Volume: 15 0 160 0 0 0 9 101 0 0 188 114

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Final Volume: 15 0 160 0 0 0 9 101 0 0 188 114

Critical Gap Module:

Critical Gap: 6.4 6.5 6.2 XXXXX XXXX XXXXX 4.1 XXXX XXXXX XXXX XXXX XXXXX

FollowOptim: 3.5 4.0 3.3 XXXXX XXXX XXXXX 2.2 XXXX XXXXX XXXX XXXX XXXXX

Capacity Module:

Conflict Vol: 364 421 101 XXXX XXXX XXXXX 302 XXXX XXXXX XXXX XXXX XXXXX

Potent Cap: 639 527 960 XXXX XXXX XXXXX 1270 XXXX XXXXX XXXX XXXX XXXXX

Move Cap: 636 523 960 XXXX XXXX XXXXX 1270 XXXX XXXXX XXXX XXXX XXXXX

Volume/Cap: 0.02 0.00 0.17 XXXX XXXX XXXX 0.01 XXXX XXXX XXXX XXXX XXXXX

Level of Service Module:

2Way95thQ: XXXX XXXX 0.6 XXXX XXXX XXXXX 0.0 XXXX XXXXX XXXX XXXX XXXXX

Control Del: XXXXX XXXX 9.5 XXXXX XXXX XXXXX 7.9 XXXX XXXXX XXXX XXXX XXXXX

LOS by Move: \* \* \* A \* \* \* A \* \* \* A \* \* \*

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap: 636 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX

Shared Queue: 0.1 XXXX XXXXX XXXXX XXXX XXXXX 0.0 XXXX XXXXX XXXX XXXX XXXXX

Shrd ConDel: 10.8 XXXX XXXXX XXXXX XXXX XXXXX 7.9 XXXX XXXXX XXXX XXXX XXXXX

Shared LOS: B \* \* \* A \* \* \* A \* \* \*

ApproachDel: 9.6 XXXXXX XXXXXX XXXXXX

ApproachLOS: A \* \* \* XXXXXX \* \* \* XXXXXX \* \* \*

Note: Queue reported is the number of cars per lane.

Traffic 7.9.0415 (c) 2007 Dowling Assoc. Licensed to W-TRANS, Santa Rosa, CA

Weekend Midday Peak Hour - Existing Conditions  
TIS for the Pinoleville Pomo Nation Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Operations Method (Base Volume Alternative)  
Intersection #3 W Lake Mendocino Dr/N State St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.301  
Loss Time (sec): 6 (Y+R=4.0 sec) Average Delay (sec/veh): 17.7  
Optimal Cycle: 20 Level Of Service: B

Street Name: N State St W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 1 0 1 0 0 0 0 0 1 0 1 1 0 0 0 1 0 0 0 0 0

Volume Module: >> Count Date: 27 Jun 2009 << 12:00 - 1:00 pm  
Base Vol.: 55 263 0 0 218 197 160 0 66 0 0 0  
Growth Adj.: 1.00  
Initial Bse.: 55 263 0 0 218 197 160 0 66 0 0 0  
User Adj.: 1.00  
PHF Adj.: 0.85  
PHF Volume: 64 308 0 0 256 231 198 0 77 0 0 0  
Reduct Vol.: 0  
Reduced Vol.: 64 308 0 0 256 231 198 0 77 0 0 0  
PCE Adj.: 1.00  
MLF Adj.: 1.00  
FinalVolume: 64 308 0 0 256 231 198 0 77 0 0 0

Saturation Flow Module:  
Sat/Lane: 1900  
Adjustment: 0.95 1.00 1.00 1.00 1.00 1.00 0.85 0.95 1.00 0.85 0.95 1.00 0.85 1.00 1.00 0.85 1.00 1.00 1.00 1.00  
Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Sat.: 1805 1900 0 0 1900 1615 1805 0 1615 0 1615 0 1615 0 1615 0 1615 0 1615 0 1615

Capacity Analysis Module:  
Vol/Sat: 0.04 0.16 0.00 0.00 0.13 0.14 0.10 0.00 0.05 0.00 0.00 0.00 0.00  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.12 0.59 0.00 0.00 0.48 0.48 0.35 0.00 0.35 0.00 0.00 0.00 0.00  
Volume/Cap: 0.30 0.27 0.00 0.00 0.28 0.30 0.30 0.00 0.14 0.30 0.00 0.14 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00  
Delay/Veh: 41.1 10.0 0.0 0.0 16.1 16.3 24.2 0.0 22.6 0.0 0.0 0.0 0.0  
User DelAdj: 1.00  
AdjDel/Veh: 41.1 10.0 0.0 0.0 16.1 16.3 24.2 0.0 22.6 0.0 0.0 0.0 0.0  
LOS by Move: D A A A A B B C A A A A  
HCM2k95thQ: 4 9 0 0 9 9 8 0 3 0 0 0 0

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

PM Peak Hour - Existing Conditions  
TIS for the Pinoleville Pomo Nation Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Operations Method (Base Volume Alternative)  
Intersection #3 W Lake Mendocino Dr/N State St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.482  
Loss Time (sec): 6 (Y+R=4.0 sec) Average Delay (sec/veh): 22.8  
Optimal Cycle: 26 Level Of Service: C

Street Name: N State St W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
Lanes: 1 0 1 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 25 Jun 2009 << 4:30 - 5:30 pm  
Base Vol.: 149 359 0 0 282 238 287 0 111 0 0 0  
Growth Adj.: 1.00  
Initial Bse.: 149 359 0 0 282 238 287 0 111 0 0 0  
User Adj.: 1.00  
PHF Adj.: 0.86  
PHF Volume: 173 417 0 0 328 277 334 0 129 0 0 0  
Reduct Vol.: 0  
Reduced Vol.: 173 417 0 0 328 277 334 0 129 0 0 0  
PCE Adj.: 1.00  
MLF Adj.: 1.00  
FinalVolume: 173 417 0 0 328 277 334 0 129 0 0 0

Saturation Flow Module:  
Sat/Lane: 1900  
Adjustment: 0.95 1.00 1.00 1.00 1.00 1.00 0.85 0.95 1.00 0.85 0.95 1.00 0.85 1.00 1.00 0.85 1.00 1.00 1.00 1.00  
Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Sat.: 1805 1900 0 0 1900 1615 1805 0 1615 0 1615 0 1615 0 1615 0 1615 0 1615 0 1615

Capacity Analysis Module:  
Vol/Sat: 0.10 0.22 0.00 0.00 0.17 0.17 0.18 0.00 0.08 0.00 0.00 0.00  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.20 0.56 0.00 0.00 0.36 0.36 0.38 0.00 0.38 0.00 0.00 0.00  
Volume/Cap: 0.48 0.39 0.00 0.00 0.48 0.48 0.48 0.00 0.21 0.00 0.00 0.00  
Delay/Veh: 36.5 12.8 0.0 0.0 25.5 25.5 23.9 0.0 20.8 0.0 0.0 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 36.5 12.8 0.0 0.0 25.5 25.5 23.9 0.0 20.8 0.0 0.0 0.0  
LOS by Move: D B A A C C C A A C A A A  
HCM2k95thQ: 9 13 0 0 15 13 15 0 5 0 0 0

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*















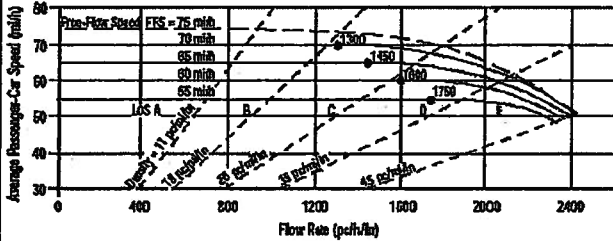


BASIC FREEWAY SEGMENTS WORKSHEET																								
		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Application</th> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>Operational (LOS)</td> <td>FFS, N, v<sub>p</sub></td> <td>LOS, S, D</td> </tr> <tr> <td>Design (N)</td> <td>FFS, LOS, v<sub>p</sub></td> <td>N, S, D</td> </tr> <tr> <td>Design (v<sub>p</sub>)</td> <td>FFS, LOS, N</td> <td>v<sub>p</sub>, S, D</td> </tr> <tr> <td>Planning (LOS)</td> <td>FFS, N, AADT</td> <td>LOS, S, D</td> </tr> <tr> <td>Planning (N)</td> <td>FFS, LOS, AADT</td> <td>N, S, D</td> </tr> <tr> <td>Planning (v<sub>p</sub>)</td> <td>FFS, LOS, N</td> <td>v<sub>p</sub>, S, D</td> </tr> </tbody> </table>		Application	Input	Output	Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D	Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D	Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D	Planning (LOS)	FFS, N, AADT	LOS, S, D	Planning (N)	FFS, LOS, AADT	N, S, D	Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D
Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (N)	FFS, LOS, AADT	N, S, D																						
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound																					
Agency or Company	W-Trans	From/To	Perkins St to N State St																					
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																					
Analysis Time Period	Existing PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)																						
<input type="checkbox"/> Planning Data																								
<b>Flow Inputs</b>																								
Volume, V	1283	veh/h	Peak-Hour Factor, PHF																					
AA DT		veh/day	% Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AADT x K x D		veh/h	Grade % Length																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00	E <sub>R</sub>	1.2																					
E <sub>T</sub>	1.5	f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> -1)+P <sub>R</sub> (E <sub>R</sub> -1)]	0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	731	pc/h/ln	Design LOS																					
S	70.0	mi/h	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
D = v <sub>p</sub> / S	10.4	pc/mi/ln	S																					
LOS	A		D = v <sub>p</sub> / S																					
		Required Number of Lanes, N																						
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								

BASIC FREEWAY SEGMENTS WORKSHEET																								
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Application	Input	Output																						
Operational (LOS)	FFS, N, $v_p$	LOS, S, D																						
Design (N)	FFS, LOS, $v_p$	N, S, D																						
Design ( $v_p$ )	FFS, LOS, N	$v_p$ , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (N)	FFS, LOS, AADT	N, S, D																						
Planning ( $v_p$ )	FFS, LOS, N	$v_p$ , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound																					
Agency or Company	W-Trans	From/To	N State St to W Lake Mendocino																					
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																					
Analysis Time Period	Existing PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)																						
<input type="checkbox"/> Planning Data																								
<b>Flow Inputs</b>																								
Volume, V	1260	veh/h	Peak-Hour Factor, PHF 0.92																					
AAAT		veh/day	%Trucks and Buses, $P_T$ 9																					
Peak-Hr Prop. of AAAT, K			%RVs, $P_R$ 2																					
Peak-Hr Direction Prop, D			General Terrain: Level																					
DDHV = AAAT x K x D		veh/h	Grade % Length mi																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
$f_p$	1.00		$E_R$ 1.2																					
$E_T$	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$ 0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	$f_{LW}$ mi/h																					
Rt-Shoulder Lat. Clearance	6.0	ft	$f_{LC}$ mi/h																					
Interchange Density	0.50	1/mi	$f_{ID}$ mi/h																					
Number of Lanes, N	2		$f_N$ mi/h																					
FFS (measured)	70.0	mi/h	FFS 70.0 mi/h																					
Base free-flow Speed, BFFS		mi/h																						
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	718	pc/h/ln	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$ pc/h																					
$S$	70.0	mi/h	$S$ mi/h																					
$D = v_p / S$	10.3	pc/mi/ln	$D = v_p / S$ pc/mi/ln																					
LOS	A		Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	$E_R$ - Exhibits 23-8, 23-10	$f_{LW}$ - Exhibit 23-4																					
V - Hourly volume	D - Density	$E_T$ - Exhibits 23-8, 23-10, 23-11	$f_{LC}$ - Exhibit 23-5																					
$v_p$ - Flow rate	FFS - Free-flow speed	$f_p$ - Page 23-12	$f_N$ - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, $v_p$ - Exhibits 23-2, 23-3	$f_{ID}$ - Exhibit 23-7																					
DDHV - Directional design hour volume																								



**BASIC FREEWAY SEGMENTS WORKSHEET**



Application	Input	Output
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D

General Information		Site Information	
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound
Agency or Company	W-Trans	From/To	W Lake Mendocino to Moore St
Date Performed	9/15/2009	Jurisdiction	County of Mendocino
Analysis Time Period	Existing PM Peak Hour	Analysis Year	2009

Project Description Traffic Impact Study for the Pinoleville Casino

Oper. (LOS)       Des. (N)       Planning Data

Flow Inputs			
Volume, V	1238	veh/h	Peak-Hour Factor, PHF
AADT		veh/day	% Trucks and Buses, P <sub>T</sub>
Peak-Hr Prop. of AADT, K			% RVs, P <sub>R</sub>
Peak-Hr Direction Prop, D			General Terrain:
DDHV = AADT x K x D		veh/h	Grade %    Length
Driver type adjustment	1.00		Up/Down %

Calculate Flow Adjustments			
f <sub>p</sub>	1.00		E <sub>R</sub>
E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]
			0.953

Speed Inputs		Calc Speed Adj and FFS	
Lane Width	12.0 ft	f <sub>LW</sub>	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f <sub>LC</sub>	mi/h
Interchange Density	0.50 l/mi	f <sub>ID</sub>	mi/h
Number of Lanes, N	2	f <sub>N</sub>	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures		Design (N)	
<b>Operational (LOS)</b>		<b>Design (N)</b>	
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	706 pc/h/ln	Design LOS	
S	70.0 mi/h	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	pc/h
D = v <sub>p</sub> / S	10.1 pc/mi/ln	S	mi/h
LOS	A	D = v <sub>p</sub> / S	pc/mi/ln
		Required Number of Lanes, N	

Glossary		Factor Location	
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7
DDHV - Directional design hour volume			

BASIC FREEWAY SEGMENTS WORKSHEET																								
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Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (N)	FFS, LOS, AADT	N, S, D																						
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Southbound																					
Agency or Company	W-Trans	From/To	Perkins St to N State St																					
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																					
Analysis Time Period	Existing PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)	<input checked="" type="checkbox"/> Planning Data																					
<b>Flow Inputs</b>																								
Volume, V	1568	veh/h	Peak-Hour Factor, PHF																					
AADT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AADT x K x D		veh/h	Grade % Length																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00	E <sub>R</sub>	1.2																					
E <sub>T</sub>	1.5	f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]	0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> )	894	pc/h/ln	Design LOS																					
S	70.0	mi/h	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> )																					
D = v <sub>p</sub> / S	12.8	pc/mi/ln	S																					
LOS	B		D = v <sub>p</sub> / S																					
			Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								





BASIC FREEWAY SEGMENTS WORKSHEET																								
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Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
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Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Southbound																					
Agency or Company	W-Trans	From/To	W Lake Mendocino to Moore St																					
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																					
Analysis Time Period	Existing PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)																						
<input type="checkbox"/> Planning Data																								
<b>Flow Inputs</b>																								
Volume, V	1513	veh/h	Peak-Hour Factor, PHF																					
AADT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AADT x K x D		veh/h	Grade % Length																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00	E <sub>R</sub>	1.2																					
E <sub>T</sub>	1.5	f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]	0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
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v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	863	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
S	70.0	mi/h	S																					
D = v <sub>p</sub> / S	12.3	pc/mi/ln	D = v <sub>p</sub> / S																					
LOS	B		Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
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DDHV - Directional design hour volume																								

















PM Peak Hour - Baseline Conditions
TIS for the Pinoleville Pomo Nation Casino
County of Mendocino

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)
\*\*\*\*\*
Intersection #6 N State St/US 101 NB Ramps
\*\*\*\*\*

Average Delay (sec/veh): 3.8 Worst Case Level Of Service: C [ 23.4 ]
\*\*\*\*\*

Street Name: N State St US 101 NB Ramps
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Ignore Include Include Include
Lanes: 0 0 2 0 1 1 0 2 0 0 0 0 0 0 1 0 0 0 1

Volume Module: >> Count Date: 25 Jun 2009 << 4:15 - 5:15 pm
Base Vol: 0 495 316 20 790 0 0 0 183 0 74
Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04

Critical Gap Module:
Critical Gap:xxxxx xxxx xxxxx 4.1 xxxx xxxxx xxxxx xxxxx xxxxx 6.8 xxxx 6.9
FollowUpTim:xxxxx xxxx xxxxx 2.2 xxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxxx 3.3

Capacity Module:
Conflict Vol: xxxx xxxx xxxxx 515 xxxx xxxxx xxxx xxxx xxxxx 967 xxxx 257
Potent Cap.: xxxx xxxx xxxxx 1061 xxxx xxxxx xxxx xxxx xxxxx 255 xxxx 748

Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.1 xxxx xxxxx xxxx xxxx xxxxx 2.7 xxxx 0.3
Control Del:xxxxx xxxx xxxxx 8.6 xxxx xxxxx xxxxx xxxxx xxxxx 23.4 xxxxx 10.4

LOS by Move: \* \* \* A \* \* \* \* \* C \* \* \* B
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*
Traflix 7.9.0415 (c) 2007 Dowling Assoc. Licensed to W-TRANS, Santa Rosa, CA

Weekend Midday Peak Hour - Baseline Conditions
TIS for the Pinoleville Pomo Nation Casino
County of Mendocino

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)
\*\*\*\*\*
Intersection #6 N State St/US 101 NB Ramps
\*\*\*\*\*

Average Delay (sec/veh): 3.4 Worst Case Level Of Service: B [ 14.8 ]
\*\*\*\*\*

Street Name: N State St US 101 NB Ramps
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Ignore Include Include Include
Lanes: 0 0 2 0 1 1 0 2 0 0 0 0 0 0 1 0 0 0 1

Volume Module: >> Count Date: 27 Jun 2009 << 12:00 - 1:00 pm
Base Vol: 0 411 179 12 429 0 0 0 141 0 109
Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04

Critical Gap Module:
Critical Gap:xxxxx xxxx xxxxx 4.1 xxxx xxxxx xxxxx xxxxx xxxxx 6.8 xxxx 6.9
FollowUpTim:xxxxx xxxx xxxxx 2.2 xxxx xxxxx xxxxx xxxxx xxxxx 3.5 xxxxx 3.3

Capacity Module:
Conflict Vol: xxxx xxxx xxxxx 427 xxxx xxxxx xxxx xxxx xxxxx 675 xxxx 214
Potent Cap.: xxxx xxxx xxxxx 1143 xxxx xxxxx xxxx xxxx xxxxx 392 xxxx 798

Level of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.0 xxxx xxxxx xxxx xxxx xxxxx 1.2 xxxx 0.5
Control Del:xxxxx xxxx xxxxx 8.3 xxxx xxxxx xxxxx xxxxx xxxxx 15.5 xxxxx 10.3

LOS by Move: \* \* \* A \* \* \* \* \* C \* \* \* B
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx

Note: Queue reported is the number of cars per lane.
\*\*\*\*\*
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BASIC FREEWAY SEGMENTS WORKSHEET																								
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Application	Input	Output																						
Operational (LOS)	FFS, N, $v_p$	LOS, S, D																						
Design (N)	FFS, LOS, $v_p$	N, S, D																						
Design ( $v_p$ )	FFS, LOS, N	$v_p$ , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (N)	FFS, LOS, AADT	N, S, D																						
Planning ( $v_p$ )	FFS, LOS, N	$v_p$ , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound																					
Agency or Company	W-Trans	From/To	Perkins St to N State St																					
Date Performed	9/17/09	Jurisdiction	County of Mendocino																					
Analysis Time Period	Baseline PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
☑ Oper.(LOS)		☑ Des.(N)																						
☑ Planning Data																								
<b>Flow Inputs</b>																								
Volume, V	1449	veh/h	Peak-Hour Factor, PHF																					
AADT		veh/day	%Trucks and Buses, $P_T$																					
Peak-Hr Prop. of AADT, K			%RVs, $P_R$																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AADT x K x D		veh/h	Grade % Length																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
$f_p$	1.00		$E_R$																					
$E_T$	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$																					
			1.2																					
			0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	$f_{LW}$																					
Rt-Shoulder Lat. Clearance	6.0	ft	$f_{LC}$																					
Interchange Density	0.50	l/mi	$f_{ID}$																					
Number of Lanes, N	2		$f_N$																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV})$	826	pc/h/ln	Design LOS																					
$S$	70.0	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV})$																					
$D = v_p / S$	11.8	pc/mi/ln	$S$																					
LOS	B		$D = v_p / S$																					
			Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	$E_R$ - Exhibits 23-8, 23-10	$f_{LW}$ - Exhibit 23-4																					
V - Hourly volume	D - Density	$E_T$ - Exhibits 23-8, 23-10, 23-11	$f_{LC}$ - Exhibit 23-5																					
$v_p$ - Flow rate	FFS - Free-flow speed	$f_p$ - Page 23-12	$f_N$ - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, $v_p$ - Exhibits 23-2, 23-3	$f_{ID}$ - Exhibit 23-7																					
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Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
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Planning (LOS)	FFS, N, AADT	LOS, S, D																						
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<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound																					
Agency or Company	W-Trans	From/To	State St to W Lake Mendocino																					
Date Performed	9/17/09	Jurisdiction	County of Mendocino																					
Analysis Time Period	Baseline PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)																						
<input type="checkbox"/> Planning Data																								
<b>Flow Inputs</b>																								
Volume, V	1423	veh/h	Peak-Hour Factor, PHF																					
AADT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>																					
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Number of Lanes, N	2		f <sub>N</sub>																					
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<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )		Design LOS																						
v <sub>p</sub>	811	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
f <sub>p</sub>			f <sub>p</sub>																					
S	70.0	mi/h	S																					
D = v <sub>p</sub> / S	11.6	pc/mi/ln	D = v <sub>p</sub> / S																					
LOS	B		Required Number of Lanes, N																					
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LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
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Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
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Planning (LOS)	FFS, N, AADT	LOS, S, D																						
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<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound																					
Agency or Company	W-Trans	From/To	W Lake Mendocino to Moore St																					
Date Performed	9/17/09	Jurisdiction	County of Mendocino																					
Analysis Time Period	Baseline PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper. (LOS)		<input checked="" type="checkbox"/> Des. (N)																						
<input checked="" type="checkbox"/> Planning Data																								
<b>Flow Inputs</b>																								
Volume, V	1398	veh/h	Peak-Hour Factor, PHF																					
AA DT		veh/day	% Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AADT, K			% RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AADT x K x D		veh/h	Grade % Length																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00		E <sub>R</sub>																					
E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]																					
			0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	797	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
S	70.0	mi/h	S																					
D = v <sub>p</sub> / S	11.4	pc/mi/ln	D = v <sub>p</sub> / S																					
LOS	B		Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								



BASIC FREEWAY SEGMENTS WORKSHEET																								
	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Application</th> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>Operational (LOS)</td> <td>FFS, N, <math>v_p</math></td> <td>LOS, S, D</td> </tr> <tr> <td>Design (N)</td> <td>FFS, LOS, <math>v_p</math></td> <td>N, S, D</td> </tr> <tr> <td>Design (<math>v_p</math>)</td> <td>FFS, LOS, N</td> <td><math>v_p</math>, S, D</td> </tr> <tr> <td>Planning (LOS)</td> <td>FFS, N, AADT</td> <td>LOS, S, D</td> </tr> <tr> <td>Planning (#)</td> <td>FFS, LOS, AADT</td> <td>N, S, D</td> </tr> <tr> <td>Planning (<math>v_p</math>)</td> <td>FFS, LOS, N</td> <td><math>v_p</math>, S, D</td> </tr> </tbody> </table>			Application	Input	Output	Operational (LOS)	FFS, N, $v_p$	LOS, S, D	Design (N)	FFS, LOS, $v_p$	N, S, D	Design ( $v_p$ )	FFS, LOS, N	$v_p$ , S, D	Planning (LOS)	FFS, N, AADT	LOS, S, D	Planning (#)	FFS, LOS, AADT	N, S, D	Planning ( $v_p$ )	FFS, LOS, N	$v_p$ , S, D
Application	Input	Output																						
Operational (LOS)	FFS, N, $v_p$	LOS, S, D																						
Design (N)	FFS, LOS, $v_p$	N, S, D																						
Design ( $v_p$ )	FFS, LOS, N	$v_p$ , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (#)	FFS, LOS, AADT	N, S, D																						
Planning ( $v_p$ )	FFS, LOS, N	$v_p$ , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Southbound																					
Agency or Company	W-Trans	From/To	Perkins St to N State St																					
Date Performed	9/17/09	Jurisdiction	County of Mendocino																					
Analysis Time Period	Baseline PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data																					
<b>Flow Inputs</b>																								
Volume, V	1770	veh/h	Peak-Hour Factor, PHF																					
AADT		veh/day	%Trucks and Buses, $P_T$																					
Peak-Hr Prop. of AADT, K			%RVs, $P_R$																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AADT x K x D		veh/h	Grade % Length																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
$f_p$	1.00		$E_R$																					
$E_T$	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$																					
			0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	$f_{LW}$																					
Rt-Shoulder Lat. Clearance	6.0	ft	$f_{LC}$																					
Interchange Density	0.50	l/mi	$f_{ID}$																					
Number of Lanes, N	2		$f_N$																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV})$	1009	pc/h/ln	Design LOS																					
$x f_p$			$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV})$																					
S	70.0	mi/h	$x f_p$																					
$D = v_p / S$	14.4	pc/mi/ln	S																					
LOS	B		$D = v_p / S$																					
			Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	$E_R$ - Exhibits 23-8, 23-10	$f_{LW}$ - Exhibit 23-4																					
V - Hourly volume	D - Density	$E_T$ - Exhibits 23-8, 23-10, 23-11	$f_{LC}$ - Exhibit 23-5																					
$v_p$ - Flow rate	FFS - Free-flow speed	$f_p$ - Page 23-12	$f_N$ - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, $v_p$ - Exhibits 23-2, 23-3	$f_{ID}$ - Exhibit 23-7																					
DDHV - Directional design hour volume																								

BASIC FREEWAY SEGMENTS WORKSHEET																								
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Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (N)	FFS, LOS, AADT	N, S, D																						
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Southbound																					
Agency or Company	W-Trans	From/To	N State St to W Lake Mendocino																					
Date Performed	9/17/09	Jurisdiction	County of Mendocino																					
Analysis Time Period	Baseline PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)																						
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Planning Data																						
<b>Flow Inputs</b>																								
Volume, V	1739	veh/h	Peak-Hour Factor, PHF																					
AADT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AADT x K x D		veh/h	Grade % Length mi																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00	E <sub>R</sub>	1.2																					
E <sub>T</sub>	1.5	f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]	0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	991	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
S	70.0	mi/h	S																					
D = v <sub>p</sub> / S	14.2	pc/mi/ln	D = v <sub>p</sub> / S																					
LOS	B		Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								

BASIC FREEWAY SEGMENTS WORKSHEET																								
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Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (N)	FFS, LOS, AADT	N, S, D																						
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Southbound																					
Agency or Company	W-Trans	From/To	W Lake Mendocino to Moore St																					
Date Performed	9/17/09	Jurisdiction	County of Mendocino																					
Analysis Time Period	Baseline PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)																						
<input type="checkbox"/> Planning Data																								
<b>Flow Inputs</b>																								
Volume, V	1708	veh/h	Peak-Hour Factor, PHF																					
AADT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AADT x K x D		veh/h	Grade % Length mi																					
Driver type adjustment	1.00		Up/Down %																					
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f <sub>p</sub>	1.00	E <sub>R</sub>	1.2																					
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<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	974	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
S	70.0	mi/h	S																					
D = v <sub>p</sub> / S	13.9	pc/mi/ln	D = v <sub>p</sub> / S																					
LOS	B		Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								

PM Peak Hour - Baseline plus Project Conditions  
 Traffic Study for the Pinoleville Casino  
 County of Mendocino

Trip Generation Report

Zone #	Subzone	Amount	Units	Rate		Trips		Total % Of Trips Total
				In	Out	In	Out	
1	Zone 1	1.00	Casino	210.00	201.00	210	201	411 100.0
			Subtotal			210	201	411 100.0
TOTAL						210	201	411 100.0

Forecast for pm

Weekend Midday Peak Hour - Baseline plus Project Conditions  
 Traffic Study for the Pinoleville Casino  
 County of Mendocino

Trip Generation Report

Zone #	Subzone	Amount	Units	Rate		Trips		Total % Of Trips Total
				In	Out	In	Out	
1	Zone 1	1.00	Casino	282.00	213.00	282	213	495 100.0
			Subtotal			282	213	495 100.0
TOTAL						282	213	495 100.0

Forecast for md



Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)  
 \*\*\*\*\*  
 Intersection #1 W Lake Mendocino Dr/US 101 SB Ramps  
 \*\*\*\*\*  
 Average Delay (sec/veh): 12.3 Worst Case Level Of Service: C [ 23.0 ]  
 \*\*\*\*\*  
 Street Name: US 101 SB Ramps W Lake Mendocino Dr  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include Include  
 Lanes: 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0  
 Volume Module: >> Count Date: 25 Jun 2009 << 4:30 - 5:30 pm  
 Base Vol: 0 0 0 121 0 13 0 11 30 268 16 0  
 Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04  
 Initial Bse: 0 0 0 126 0 3 0 11 31 279 17 0  
 Added Vol: 0 0 0 57 0 0 0 0 0 10 0 0  
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 0 0 0 183 0 3 0 11 31 289 17 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 0 0 0 183 0 3 0 11 31 289 17 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 FinalVolume: 0 0 0 183 0 3 0 11 31 289 17 0  
 Critical Gap Module:  
 Critical Gap:xxxxx xxx xxxxx 6.4 xxxxx 6.2 xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx  
 FollowUpTim:xxxxx xxx xxxxx 3.5 xxxxx 3.3 xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx  
 Capacity Module:  
 Conflict Vol: xxxxx xxxxx xxxxx 621 xxxxx 17 xxxxx xxxxx xxxxx 43 xxxxx xxxxx  
 Potent Cap.: xxxxx xxxxx xxxxx 454 xxxxx 1068 xxxxx xxxxx xxxxx 1579 xxxxx xxxxx  
 Move Cap.: xxxxx xxxxx xxxxx 378 xxxxx 1068 xxxxx xxxxx xxxxx 1579 xxxxx xxxxx  
 Volume/Cap: xxxxx xxxxx xxxxx 0.48 xxxxx 0.00 xxxxx xxxxx xxxxx 0.18 xxxxx xxxxx  
 Level Of Service Module:  
 2Way95thQ: xxxxx xxxxx xxxxx 2.5 xxxxx 0.0 xxxxx xxxxx xxxxx 0.7 xxxxx xxxxx  
 Control Del:xxxxx xxx xxxxx 23.1 xxxxx 8.4 xxxxx xxxxx xxxxx 7.9 xxxxx xxxxx  
 LOS by Move: \* \* \* \* \* C \* \* \* \* \* A \* \* \* \* \* A \* \* \* \* \*  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
 SharedQueue:xxxxx xxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
 Shrd ConDel:xxxxx xxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
 Shared LOS: \*  
 ApproachDel: xxxxxx 23.0 C xxxxxx  
 ApproachLOS: \* \* \* \* \*  
 Note: Queue reported is the number of cars per lane.  
 \*\*\*\*\*

Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)  
 \*\*\*\*\*  
 Intersection #1 W Lake Mendocino Dr/US 101 SB Ramps  
 \*\*\*\*\*  
 Average Delay (sec/veh): 9.7 Worst Case Level Of Service: B [ 14.3 ]  
 \*\*\*\*\*  
 Street Name: US 101 SB Ramps W Lake Mendocino Dr  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include Include  
 Lanes: 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0  
 Volume Module: >> Count Date: 27 Jun 2009 << 12:00 - 1:00 pm  
 Base Vol: 0 0 0 86 0 3 0 10 14 167 16 0  
 Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04  
 Initial Bse: 0 0 0 89 0 3 0 10 15 174 17 0  
 Added Vol: 0 0 0 76 0 0 0 0 0 11 0 0  
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 0 0 0 165 0 3 0 10 15 185 17 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 0 0 0 165 0 3 0 10 15 185 17 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 FinalVolume: 0 0 0 165 0 3 0 10 15 185 17 0  
 Critical Gap Module:  
 Critical Gap:xxxxx xxx xxxxx 6.4 xxxxx 6.2 xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx  
 FollowUpTim:xxxxx xxx xxxxx 3.5 xxxxx 3.3 xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx  
 Capacity Module:  
 Conflict Vol: xxxxx xxxxx xxxxx 404 xxxxx 17 xxxxx xxxxx xxxxx 25 xxxxx xxxxx  
 Potent Cap.: xxxxx xxxxx xxxxx 607 xxxxx 1068 xxxxx xxxxx xxxxx 1603 xxxxx xxxxx  
 Move Cap.: xxxxx xxxxx xxxxx 547 xxxxx 1068 xxxxx xxxxx xxxxx 1603 xxxxx xxxxx  
 Volume/Cap: xxxxx xxxxx xxxxx 0.30 xxxxx 0.00 xxxxx xxxxx xxxxx 0.12 xxxxx xxxxx  
 Level Of Service Module:  
 2Way95thQ: xxxxx xxxxx xxxxx 1.3 xxxxx 0.0 xxxxx xxxxx xxxxx 0.4 xxxxx xxxxx  
 Control Del:xxxxx xxx xxxxx 14.4 xxxxx 8.4 xxxxx xxxxx xxxxx 7.6 xxxxx xxxxx  
 LOS by Move: \* \* \* \* \* B \* \* \* \* \* A \* \* \* \* \* A \* \* \* \* \*  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
 SharedQueue:xxxxx xxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
 Shrd ConDel:xxxxx xxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
 Shared LOS: \*  
 ApproachDel: xxxxxx 14.3 xxxxxx  
 ApproachLOS: \* \* \* \* \* B \* \* \* \* \*  
 Note: Queue reported is the number of cars per lane.  
 \*\*\*\*\*



PM Peak Hour - Baseline plus Project Conditions  
Traffic Study for the Pinoleville Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)  
Intersection #2 W Lake Mendocino Dr/US 101 NB Ramps

Average Delay (sec/veh): 3.3 Worst Case Level of Service: B [11.1]  
Street Name: US 101 NB Ramps W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 1 0 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0

Volume Module: >> Count Date: 25-Jun 2009 << 4:30 - 5:30 pm  
Base Vol: 8 0 251 0 0 6 119 0 0 282 205  
Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04

Critical Gap Module:  
Critical Gp: 6.4 6.5 6.2 XXXXX XXXX XXXXX 4.1 XXXX XXXXX XXXXX XXXX XXXXX  
FollowUpTIm: 3.5 4.0 3.3 XXXXX XXXX XXXXX 2.2 XXXX XXXXX XXXX XXXX XXXXX

Capacity Module:  
Conflict Vol: 609 743 181 XXXX XXXX XXXXX 550 XXXX XXXXX XXXX XXXX XXXXX  
Potential Cap.: 461 346 867 XXXX XXXX XXXXX 1030 XXXX XXXXX XXXX XXXX XXXXX

Level of Service Module:  
2Way95thQ: XXXX XXXX 1.3 XXXX XXXX XXXXX 0.0 XXXX XXXXX XXXX XXXX XXXXX  
Control Del:XXXXX XXXX 11.0 XXXXX XXXX XXXXX 8.5 XXXX XXXXX XXXX XXXX XXXXX

Weekend Midday Peak Hour - Baseline plus Project Conditions  
Traffic Study for the Pinoleville Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)  
Intersection #2 W Lake Mendocino Dr/US 101 NB Ramps

Average Delay (sec/veh): 3.0 Worst Case Level of Service: B [10.2]  
Street Name: US 101 NB Ramps W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 1 0 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0

Volume Module: >> Count Date: 27 Jun 2009 << 12:00 - 1:00 pm  
Base Vol: 13 0 143 0 0 8 90 0 0 168 102  
Growth Adj: 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04

Critical Gap Module:  
Critical Gp: 6.4 6.5 6.2 XXXXX XXXX XXXXX 4.1 XXXX XXXXX XXXXX XXXX XXXXX  
FollowUpTIm: 3.5 4.0 3.3 XXXXX XXXX XXXXX 2.2 XXXX XXXXX XXXX XXXX XXXXX

Capacity Module:  
Conflict Vol: 170 XXXX XXXX XXXXX 350 XXXX XXXXX XXXX XXXX XXXXX  
Potential Cap.: 568 454 880 XXXX XXXX XXXXX 1220 XXXX XXXXX XXXX XXXX XXXXX

Level of Service Module:  
2Way95thQ: XXXX XXXX 0.7 XXXX XXXX XXXXX 0.0 XXXX XXXXX XXXX XXXX XXXXX  
Control Del:XXXXX XXXX 10.0 XXXXX XXXX XXXXX 8.0 XXXX XXXXX XXXX XXXX XXXXX

Level of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)  
 \*\*\*\*\*  
 Intersection #3 W Lake Mendocino Dr/N State St  
 \*\*\*\*\*  
 Cycle (sec): 100 Critical Vol./Cap.(X): 0.478  
 Loss Time (sec): 6 (Y+R=4.0 sec) Average Delay (sec/veh): 23.0  
 Optimal Cycle: 26 Level Of Service: C  
 \*\*\*\*\*

Street Name: N State ST W Lake Mendocino Dr  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L T R L T R L T R L T R  
 Control: Protected Protected Protected Protected Protected Protected  
 Rights: Include Include Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 Lanes: 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 25 Jun 2009 << 4:30 - 5:30 pm  
 Base Vol: 149 359 0 0 282 238 287 0 111 0 0 0  
 Growth Adj: 1.00 1.08 1.00 1.00 1.04 1.00 1.04 1.00 1.04 1.00 1.00 1.00  
 Initial Bse: 149 388 0 0 305 238 298 0 115 0 0 0  
 Added Vol: 64 10 0 0 11 0 0 0 67 0 0 0  
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 213 398 0 0 316 238 298 0 182 0 0 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 213 398 0 0 316 238 298 0 182 0 0 0  
 Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Volume: 213 398 0 0 316 238 298 0 182 0 0 0

Saturation Flow Module:  
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
 Adjustment: 0.95 1.00 1.00 1.00 0.85 0.95 1.00 0.85 1.00 1.00 1.00  
 Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00  
 Final Sat.: 1805 1900 0 0 1900 1615 1805 0 1615 0 0 0

Capacity Analysis Module:  
 Vol/Sat: 0.12 0.21 0.00 0.00 0.17 0.15 0.17 0.00 0.11 0.00 0.00 0.00  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.25 0.59 0.00 0.00 0.35 0.35 0.35 0.00 0.35 0.00 0.00 0.00  
 Volume/Cap: 0.48 0.35 0.00 0.00 0.48 0.42 0.48 0.00 0.33 0.00 0.00 0.00  
 Delay/Veh: 33.0 10.6 0.0 0.0 26.1 25.5 26.2 0.0 24.5 0.0 0.0 0.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 33.0 10.6 0.0 0.0 26.1 25.5 26.2 0.0 24.5 0.0 0.0 0.0  
 LOS by Move: C B A A C C A C A C A A  
 LOS by Move: 11 12 0 0 15 11 14 0 8 0 0 0  
 HCM2k95thQ: 6 8 0 0 10 8 8 0 8 0 0 0

\*\*\*\*\*  
 Note: Queue reported is the number of cars per lane.  
 \*\*\*\*\*

Level of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)  
 \*\*\*\*\*  
 Intersection #3 W Lake Mendocino Dr/N State St  
 \*\*\*\*\*  
 Cycle (sec): 100 Critical Vol./Cap.(X): 0.317  
 Loss Time (sec): 6 (Y+R=4.0 sec) Average Delay (sec/veh): 20.3  
 Optimal Cycle: 21 Level Of Service: C  
 \*\*\*\*\*

Street Name: N State ST W Lake Mendocino Dr  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L T R L T R L T R L T R  
 Control: Protected Protected Protected Protected Protected Protected  
 Rights: Include Include Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 27 Jun 2009 << 12:00 - 1:00 pm  
 Base Vol: 55 263 0 0 218 197 160 0 66 0 0 0  
 Growth Adj: 1.00 1.08 1.00 1.00 1.08 1.00 1.04 1.00 1.04 1.00 1.00 1.00  
 Initial Bse: 55 284 0 0 235 197 166 0 69 0 0 0  
 Added Vol: 68 11 0 0 14 0 0 0 90 0 0 0  
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 123 295 0 0 249 197 166 0 159 0 0 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Volume: 123 295 0 0 249 197 166 0 159 0 0 0  
 Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Volume: 123 295 0 0 249 197 166 0 159 0 0 0

Saturation Flow Module:  
 Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
 Adjustment: 0.95 1.00 1.00 1.00 0.85 0.95 1.00 0.85 1.00 1.00 1.00  
 Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00  
 Final Sat.: 1805 1900 0 0 1900 1615 1805 0 1615 0 0 0

Capacity Analysis Module:  
 Vol/Sat: 0.07 0.16 0.00 0.00 0.13 0.12 0.09 0.00 0.10 0.00 0.00 0.00  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.22 0.63 0.00 0.00 0.41 0.41 0.31 0.00 0.31 0.00 0.00 0.00  
 Volume/Cap: 0.32 0.25 0.00 0.00 0.32 0.29 0.30 0.00 0.32 0.00 0.00 0.00  
 Delay/Veh: 33.5 8.2 0.0 0.0 20.0 19.8 26.5 0.0 26.7 0.0 0.0 0.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 33.5 8.2 0.0 0.0 20.0 19.8 26.5 0.0 26.7 0.0 0.0 0.0  
 LOS by Move: C A A A A B C A C A A A  
 LOS by Move: 6 8 0 0 10 8 8 0 8 0 0 0  
 HCM2k95thQ: 6 8 0 0 10 8 8 0 8 0 0 0

\*\*\*\*\*  
 Note: Queue reported is the number of cars per lane.  
 \*\*\*\*\*



















BASIC FREEWAY SEGMENTS WORKSHEET																								
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Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (#)	FFS, LOS, AADT	N, S, D																						
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound																					
Agency or Company	W-Trans	From/To	Perkins St to N State St																					
Date Performed	9/17/09	Jurisdiction	County of Mendocino																					
Analysis Time Period	Baseline+Project PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)																						
<b>Flow Inputs</b>																								
Volume, V	1557	veh/h	Peak-Hour Factor, PHF																					
AADT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AADT x K x D		veh/h	Grade % Length mi																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00		E <sub>R</sub>																					
E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]																					
			1.2																					
			0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	888	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
S	70.0	mi/h	S																					
D = v <sub>p</sub> / S	12.7	pc/mi/ln	D = v <sub>p</sub> / S																					
LOS	B		Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								

BASIC FREEWAY SEGMENTS WORKSHEET																								
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Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
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Analysis Time Period	Baseline+Project PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper. (LOS)		<input type="checkbox"/> Des. (N)																						
<b>Flow Inputs</b>																								
Volume, V	1429	veh/h	Peak-Hour Factor, PHF																					
AACT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AACT, K			%RVs, P <sub>R</sub>																					
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E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> -1) + P <sub>R</sub> (E <sub>R</sub> -1)]																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
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Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h																						
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	815	pc/h/ln	Design LOS																					
S	70.0	mi/h	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
D = v <sub>p</sub> / S	11.6	pc/mi/ln	S																					
LOS	B		D = v <sub>p</sub> / S																					
		Required Number of Lanes, N																						
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								



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Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (N)	FFS, LOS, AADT	N, S, D																						
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound																					
Agency or Company	W-Trans	From/To	W Lake Mendocino to Moore St																					
Date Performed	9/17/09	Jurisdiction	County of Mendocino																					
Analysis Time Period	Baseline+Project PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)																						
<input type="checkbox"/> Planning Data																								
<b>Flow Inputs</b>																								
Volume, V	1460	veh/h	Peak-Hour Factor, PHF																					
AADT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AADT x K x D		veh/h	Grade % Length																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00		E <sub>R</sub>																					
E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]																					
			0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> ) <sup>x</sup>	832	pc/h/ln	Design LOS																					
f <sub>p</sub>			v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> ) <sup>x</sup>																					
S	70.0	mi/h	f <sub>p</sub>																					
D = v <sub>p</sub> / S	11.9	pc/mi/ln	S																					
LOS	B		D = v <sub>p</sub> / S																					
			Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								

BASIC FREEWAY SEGMENTS WORKSHEET																								
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Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (N)	FFS, LOS, AADT	N, S, D																						
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Southbound																					
Agency or Company	W-Trans	From/To	Perkins St to N State St																					
Date Performed	9/17/09	Jurisdiction	County of Mendocino																					
Analysis Time Period	Baseline+Project PM Peak Hour	Analysis Year	2009																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)	<input checked="" type="checkbox"/> Planning Data																					
<b>Flow Inputs</b>																								
Volume, V	1873	veh/h	Peak-Hour Factor, PHF																					
AAAT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AAAT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AAAT x K x D		veh/h	Grade % Length																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00		E <sub>R</sub>																					
E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]																					
			1.2																					
			0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	1068	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
S	70.0	mi/h	S																					
D = v <sub>p</sub> / S	15.3	pc/mi/ln	D = v <sub>p</sub> / S																					
LOS	B		Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								

BASIC FREEWAY SEGMENTS WORKSHEET																										
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Application	Input	Output																								
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																								
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																								
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																								
Planning (LOS)	FFS, N, AADT	LOS, S, D																								
Planning (N)	FFS, LOS, AADT	N, S, D																								
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																								
<b>General Information</b>			<b>Site Information</b>																							
Analyst	TDH		Highway/Direction of Travel	US 101 Southbound																						
Agency or Company	W-Trans		From/To	N State St to W Lake Mendocino																						
Date Performed	9/17/09		Jurisdiction	County of Mendocino																						
Analysis Time Period	Baseline+Project PM Peak Hour		Analysis Year	2009																						
Project Description Traffic Impact Study for the Pinoleville Casino																										
<input checked="" type="checkbox"/> Oper.(LOS) <input checked="" type="checkbox"/> Des.(N) <input type="checkbox"/> Planning Data																										
<b>Flow Inputs</b>																										
Volume, V	1745	veh/h	Peak-Hour Factor, PHF	0.92																						
AADT		veh/day	%Trucks and Buses, P <sub>T</sub>	9																						
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>	2																						
Peak-Hr Direction Prop, D			General Terrain:	Level																						
DDHV = AADT x K x D		veh/h	Grade %	mi																						
Driver type adjustment	1.00		Up/Down %																							
<b>Calculate Flow Adjustments</b>																										
f <sub>p</sub>	1.00		E <sub>R</sub>	1.2																						
E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]	0.953																						
<b>Speed Inputs</b>			<b>Calc Speed Adj and FFS</b>																							
Lane Width	12.0	ft	f <sub>LW</sub>	mi/h																						
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>	mi/h																						
Interchange Density	0.50	l/mi	f <sub>ID</sub>	mi/h																						
Number of Lanes, N	2		f <sub>N</sub>	mi/h																						
FFS (measured)	70.0	mi/h	FFS	70.0																						
Base free-flow Speed, BFFS		mi/h																								
<b>LOS and Performance Measures</b>			<b>Design (N)</b>																							
<b>Operational (LOS)</b>			<b>Design (N)</b>																							
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	995	pc/h/ln	Design LOS																							
S	70.0	mi/h	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	pc/h																						
D = v <sub>p</sub> / S	14.2	pc/mi/ln	S	mi/h																						
LOS	B		D = v <sub>p</sub> / S	pc/mi/ln																						
			Required Number of Lanes, N																							
<b>Glossary</b>			<b>Factor Location</b>																							
N - Number of lanes	S - Speed		E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																						
V - Hourly volume	D - Density		E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																						
v <sub>p</sub> - Flow rate	FFS - Free-flow speed		f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																						
LOS - Level of service	BFFS - Base free-flow speed		LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																						
DDHV - Directional design hour volume																										

BASIC FREEWAY SEGMENTS WORKSHEET																						
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Application	Input	Output																				
Operational (LOS)	FFS, N, $v_p$	LOS, S, D																				
Design (N)	FFS, LOS, $v_p$	N, S, D																				
Design ( $v_p$ )	FFS, LOS, N	$v_p$ , S, D																				
Planning (LOS)	FFS, N, AADT	LOS, S, D																				
Planning (N)	FFS, LOS, AADT	N, S, D																				
Planning ( $v_p$ )	FFS, LOS, N	$v_p$ , S, D																				
<b>General Information</b>		<b>Site Information</b>																				
Analyst	TDH	Highway/Direction of Travel	US 101 Southbound																			
Agency or Company	W-Trans	From/To	W Lake Mendocino to Moore St																			
Date Performed	9/17/09	Jurisdiction	County of Mendocino																			
Analysis Time Period	Baseline+Project PM Peak Hour	Analysis Year	2009																			
Project Description Traffic Impact Study for the Pinoleville Casino																						
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)																				
<b>Flow Inputs</b>																						
Volume, V	1773	veh/h	Peak-Hour Factor, PHF 0.92																			
AA DT		veh/day	% Trucks and Buses, $P_T$ 9																			
Peak-Hr Prop. of AADT, K			%RVs, $P_R$ 2																			
Peak-Hr Direction Prop, D			General Terrain: Level																			
DDHV = AADT x K x D		veh/h	Grade % Length mi																			
Driver type adjustment	1.00		Up/Down %																			
<b>Calculate Flow Adjustments</b>																						
$f_p$	1.00		$E_R$ 1.2																			
$E_T$	1.5		$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$ 0.953																			
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																				
Lane Width	12.0	ft	$f_{LW}$ mi/h																			
Rt-Shoulder Lat. Clearance	6.0	ft	$f_{LC}$ mi/h																			
Interchange Density	0.50	l/mi	$f_{ID}$ mi/h																			
Number of Lanes, N	2		$f_N$ mi/h																			
FFS (measured)	70.0	mi/h	FFS 70.0 mi/h																			
Base free-flow Speed, BFFS		mi/h																				
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																				
<b>Operational (LOS)</b>		<b>Design (N)</b>																				
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1011	pc/h/ln	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$ pc/h																			
S	70.0	mi/h	$f_p$ mi/h																			
$D = v_p / S$	14.4	pc/mi/ln	S mi/h																			
LOS	B		$D = v_p / S$ pc/mi/ln																			
		Required Number of Lanes, N																				
<b>Glossary</b>		<b>Factor Location</b>																				
N - Number of lanes	S - Speed	$E_R$ - Exhibits 23-8, 23-10	$f_{LW}$ - Exhibit 23-4																			
V - Hourly volume	D - Density	$E_T$ - Exhibits 23-8, 23-10, 23-11	$f_{LC}$ - Exhibit 23-5																			
$v_p$ - Flow rate	FFS - Free-flow speed	$f_p$ - Page 23-12	$f_N$ - Exhibit 23-6																			
LOS - Level of service	BFFS - Base free-flow speed	$f_{ID}$ - Exhibit 23-7																				
DDHV - Directional design hour volume																						



PM Peak Hour - Future Conditions  
TIS for the Pinoleville Pomo Nation Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)  
\*\*\*\*\*  
Intersection #1 W Lake Mendocino Dr/US 101 SB Ramps  
\*\*\*\*\*

Average Delay (sec/veh): 13.3 Worst Case Level of Service: C [ 24.8 ]  
\*\*\*\*\*

Street Name: US 101 SB Ramps W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include  
Lanes: 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0

Volume Module: >> Count Date: 25 Jun 2009 << 4:30 - 5:30 pm  
Base Vol: 0 0 121 0 3 0 11 30 268 16 0  
Growth Adj: 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16  
Initial Bse: 0 0 140 0 3 0 13 35 311 19 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 140 0 3 0 13 35 311 19 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 140 0 3 0 13 35 311 19 0

Critical Gap Module:  
Critical Gap:XXXXX XXXX XXXX 6.4 XXXX 6.2 XXXXX XXXX XXXXX 4.1 XXXX XXXXX  
FollowUpTim:XXXXX XXXX XXXX 3.5 XXXX 3.3 XXXXX XXXX XXXXX 2.2 XXXX XXXXX

Capacity Module:  
Conflict Vol: XXXX XXXX XXXXX 670 XXXX 19 XXXX XXXX XXXXX 48 XXXX XXXXX  
Potent Cap.: XXXX XXXX XXXXX 425 XXXX 1066 XXXX XXXX XXXXX 1573 XXXX XXXXX  
Move Cap.: XXXX XXXX XXXXX 347 XXXX 1066 XXXX XXXX XXXXX 1573 XXXX XXXXX  
Volume/Cap: XXXX XXXX XXXX 0.40 XXXX 0.00 XXXX XXXX XXXXX 0.20 XXXX XXXXX

Level of Service Module:  
2Way95thQ: XXXX XXXX XXXXX 1.9 XXXX 0.0 XXXX XXXX XXXXX 0.7 XXXX XXXXX  
Control Del:XXXXX XXXX XXXXX 22.3 XXXX 8.4 XXXXX XXXX XXXXX 8.0 XXXX XXXXX  
LOS by Move: \* \* \* \* \* A \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
SharedQueue:XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Shrd ConDel:XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: XXXXXX \* \* \* \* \* XXXXXX \* \* \* \* \*  
ApproachLOS: \* \* \* \* \* C \* \* \* \* \*  
\*\*\*\*\*  
Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Weekend Midday Peak Hour - Future Conditions  
TIS for the Pinoleville Pomo Nation Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)  
\*\*\*\*\*  
Intersection #1 W Lake Mendocino Dr/US 101 SB Ramps  
\*\*\*\*\*

Average Delay (sec/veh): 9.9 Worst Case Level of Service: C [ 15.1 ]  
\*\*\*\*\*

Street Name: US 101 SB Ramps W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include  
Lanes: 0 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0

Volume Module: >> Count Date: 27 Jun 2009 << 12:00 - 1:00 pm  
Base Vol: 0 0 0 86 0 3 0 10 14 167 16 0  
Growth Adj: 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16  
Initial Bse: 0 0 100 0 3 0 12 16 194 19 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 0 0 100 0 3 0 12 16 194 19 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 0 100 0 3 0 12 16 194 19 0

Critical Gap Module:  
Critical Gap:XXXXX XXXX XXXX 6.4 XXXX 6.2 XXXXX XXXX XXXXX 4.1 XXXX XXXXX  
FollowUpTim:XXXXX XXXX XXXX 3.5 XXXX 3.3 XXXXX XXXX XXXXX 2.2 XXXX XXXXX

Capacity Module:  
Conflict Vol: XXXX XXXX XXXXX 426 XXXX 19 XXXX XXXX XXXXX 28 XXXX XXXXX  
Potent Cap.: XXXX XXXX XXXXX 589 XXXX 1066 XXXX XXXX XXXXX 1599 XXXX XXXXX  
Move Cap.: XXXX XXXX XXXXX 528 XXXX 1066 XXXX XXXX XXXXX 1599 XXXX XXXXX  
Volume/Cap: XXXX XXXX XXXX 0.19 XXXX 0.00 XXXX XXXX XXXXX 0.12 XXXX XXXXX

Level of Service Module:  
2Way95thQ: XXXX XXXX XXXXX 0.7 XXXX 0.0 XXXX XXXX XXXXX 0.4 XXXX XXXXX  
Control Del:XXXXX XXXX XXXXX 13.4 XXXX 8.4 XXXXX XXXX XXXXX 7.7 XXXX XXXXX  
LOS by Move: \* \* \* \* \* B \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
SharedQueue:XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Shrd ConDel:XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Shared LOS: \* \* \* \* \* \* \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: XXXXXX \* \* \* \* \* XXXXXX \* \* \* \* \*  
ApproachLOS: \* \* \* \* \* C \* \* \* \* \*  
\*\*\*\*\*  
Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

PM Peak Hour - Future Conditions  
TIS for the Pinoleville Pomo Nation Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)  
\*\*\*\*\*  
Intersection #2 W Lake Mendocino Dr/US 101 NB Ramps  
\*\*\*\*\*

Average Delay (sec/veh): 3.4 Worst Case Level of Service: B [11.2]  
\*\*\*\*\*  
Street Name: US 101 NB Ramps W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include  
Lanes: 0 1 0 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 0

Volume Module: >> Count Date: 25 Jun 2009 << 4:30 - 5:30 pm  
Base Vol: 8 0 251 0 0 6 119 0 0 262 205  
Growth Adj: 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16  
Initial Bse: 9 0 291 0 0 7 138 0 0 304 238  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 9 0 291 0 0 7 138 0 0 304 238  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
Final Volume: 9 0 291 0 0 7 138 0 0 304 238

Critical Gap Module:  
Critical Gp: 6.4 6.5 6.2 XXXXX XXXX XXXXX 4.1 XXXX XXXXX XXXXX XXXX XXXXX  
FollowUpTim: 3.5 4.0 3.3 XXXXX XXXX XXXXX 2.2 XXXX XXXXX XXXXX XXXX XXXXX

Capacity Module:  
Conflict Vol: 575 694 138 XXXX XXXX XXXXX 542 XXXX XXXXX XXXX XXXX XXXXX  
Potent Cap.: 483 369 916 XXXX XXXX XXXXX 1037 XXXX XXXXX XXXX XXXX XXXXX  
Move Cap.: 481 366 916 XXXX XXXX XXXXX 1037 XXXX XXXXX XXXX XXXX XXXXX  
Volume/Cap: 0.02 0.00 0.32 XXXX XXXX XXXX 0.01 XXXX XXXX XXXX XXXX XXXXX

Level of Service Module:  
2Way95thQ: XXXX XXXX 1.4 XXXX XXXX XXXXX 0.0 XXXX XXXXX XXXX XXXX XXXXX  
Control Del:XXXX XXXX 10.8 XXXXX XXXX XXXXX 8.6 XXXX XXXXX XXXX XXXX XXXXX  
LOS by Move: \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: 481 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
SharedQueue: 0.1 XXXX XXXXX XXXXX XXXX XXXXX 0.0 XXXX XXXXX XXXXX XXXX XXXXX  
Shrd ConDel: 12.6 XXXX XXXXX XXXXX XXXX XXXXX 8.6 XXXX XXXXX XXXXX XXXX XXXXX  
Shared LOS: B \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: 11.2 XXXXX XXXXX XXXXX XXXXX  
ApproachLOS: B \* \* \* \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Weekend Midday Peak Hour - Future Conditions  
TIS for the Pinoleville Pomo Nation Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)  
\*\*\*\*\*  
Intersection #2 W Lake Mendocino Dr/US 101 NB Ramps  
\*\*\*\*\*

Average Delay (sec/veh): 3.0 Worst Case Level of Service: B [10.3]  
\*\*\*\*\*  
Street Name: US 101 NB Ramps W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include  
Lanes: 0 1 0 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 0

Volume Module: >> Count Date: 27 Jun 2009 << 12:00 - 1:00 pm  
Base Vol: 13 0 143 0 0 8 90 0 0 168 102  
Growth Adj: 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16  
Initial Bse: 15 0 166 0 0 9 104 0 0 195 118  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 15 0 166 0 0 9 104 0 0 195 118  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
Final Volume: 15 0 166 0 0 9 104 0 0 195 118

Critical Gap Module:  
Critical Gp: 6.4 6.5 6.2 XXXXX XXXX XXXXX 4.1 XXXX XXXXX XXXXX XXXX XXXXX  
FollowUpTim: 3.5 4.0 3.3 XXXXX XXXX XXXXX 2.2 XXXX XXXXX XXXXX XXXX XXXXX

Capacity Module:  
Conflict Vol: 377 436 104 XXXX XXXX XXXXX 313 XXXX XXXXX XXXX XXXX XXXXX  
Potent Cap.: 629 517 956 XXXX XXXX XXXXX 1259 XXXX XXXXX XXXX XXXX XXXXX  
Move Cap.: 625 513 956 XXXX XXXX XXXXX 1259 XXXX XXXXX XXXX XXXX XXXXX  
Volume/Cap: 0.02 0.00 0.17 XXXX XXXX XXXX 0.01 XXXX XXXX XXXX XXXX XXXXX

Level of Service Module:  
2Way95thQ: XXXX XXXX 0.6 XXXX XXXX XXXXX 0.0 XXXX XXXXX XXXX XXXX XXXXX  
Control Del:XXXX XXXX 9.6 XXXXX XXXX XXXXX 8.1 XXXX XXXXX XXXX XXXX XXXXX  
LOS by Move: \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: 625 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
SharedQueue: 0.1 XXXX XXXXX XXXXX XXXX XXXXX 0.0 XXXX XXXXX XXXXX XXXX XXXXX  
Shrd ConDel: 10.9 XXXX XXXXX XXXXX XXXX XXXXX 8.1 XXXX XXXXX XXXXX XXXX XXXXX  
Shared LOS: B \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: 10.3 XXXXX XXXXX XXXXX XXXXX  
ApproachLOS: B \* \* \* \* \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*



PM Peak Hour - Future Conditions  
TIS for the Pinoleville Pomo Nation Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Operations Method (Base Volume Alternative)  
Intersection #3 W Lake Mendocino Dr/N State St  
Cycle (sec): 100 Critical Vol./Cap. (X): 0.489  
Loss Time (sec): 6 (Y+R=4.0 sec) Average Delay (sec/veh): 23.5  
Optimal Cycle: 27 Level of Service: C

Street Name: N State St W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Protected Protected Protected Protected  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0  
Lanes: 1 0 1 0 0 0 1 0 1 0 0 0 0 0 0 0 0

Volume Module: >> Count Date: 25 Jun 2009 << 4:30 - 5:30 pm  
Base Vol: 149 359 0 0 282 238 287 0 111 0 0 0  
Growth Adj: 1.00 1.30 1.00 1.00 1.30 1.00 1.16 1.00 1.16 1.00 1.00 1.00  
Initial Bse: 149 467 0 0 367 238 333 0 129 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 149 467 0 0 367 238 333 0 129 0 0 0  
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 149 467 0 0 367 238 333 0 129 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Volume: 149 467 0 0 367 238 333 0 129 0 0 0

Saturation Flow Module:  
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.95 1.00 1.00 1.00 1.00 1.00 0.85 1.00 0.85 1.00 1.00 1.00  
Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 1.00 0.00 1.00 0.00 0.00 0.00  
Final Sat.: 1805 1900 0 0 1900 1615 1805 0 1615 0 0 0

Capacity Analysis Module:  
Vol/Sat: 0.08 0.25 0.00 0.00 0.19 0.15 0.18 0.00 0.08 0.00 0.00 0.00  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.17 0.56 0.00 0.00 0.39 0.39 0.38 0.00 0.38 0.00 0.00 0.00  
Volume/Cap: 0.49 0.44 0.00 0.00 0.49 0.37 0.49 0.00 0.21 0.00 0.00 0.00  
Delay/Veh: 38.9 12.9 0.0 0.0 23.2 21.9 24.4 0.0 21.3 0.0 0.0 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 38.9 12.9 0.0 0.0 23.2 21.9 24.4 0.0 21.3 0.0 0.0 0.0  
LOS by Move: D B A A C C C A C A A A  
HCM2k95thQ: 8 15 0 0 16 10 15 0 5 0 0 0  
Note: Queue reported is the number of cars per lane.

Weekend Midday Peak Hour - Future Conditions  
TIS for the Pinoleville Pomo Nation Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Operations Method (Base Volume Alternative)  
Intersection #3 W Lake Mendocino Dr/N State St  
Cycle (sec): 100 Critical Vol./Cap. (X): 0.300  
Loss Time (sec): 6 (Y+R=4.0 sec) Average Delay (sec/veh): 21.2  
Optimal Cycle: 20 Level of Service: C

Street Name: N State St W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Protected Protected Protected Protected  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0  
Lanes: 1 0 1 0 0 0 1 0 1 0 0 0 0 0 0 0

Volume Module: >> Count Date: 27 Jun 2009 << 12:00 - 1:00 pm  
Base Vol: 55 263 0 0 218 197 160 0 66 0 0 0  
Growth Adj: 1.00 1.30 1.00 1.00 1.30 1.00 1.16 1.00 1.16 1.00 1.00 1.00  
Initial Bse: 55 342 0 0 283 197 186 0 77 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 55 342 0 0 283 197 186 0 77 0 0 0  
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 55 342 0 0 283 197 186 0 77 0 0 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Volume: 55 342 0 0 283 197 186 0 77 0 0 0

Saturation Flow Module:  
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
Adjustment: 0.95 1.00 1.00 1.00 1.00 1.00 0.85 0.95 1.00 0.85 1.00 1.00  
Lanes: 1.00 1.00 0.00 0.00 1.00 1.00 1.00 0.00 1.00 0.00 0.00 0.00  
Final Sat.: 1805 1900 0 0 1900 1615 1805 0 1615 0 0 0

Capacity Analysis Module:  
Vol/Sat: 0.03 0.18 0.00 0.00 0.15 0.12 0.10 0.00 0.05 0.00 0.00 0.00  
Crit Moves: \*\*\*\*  
Green/Cycle: 0.10 0.60 0.00 0.00 0.50 0.50 0.34 0.00 0.34 0.00 0.00 0.00  
Volume/Cap: 0.30 0.30 0.00 0.00 0.30 0.25 0.30 0.00 0.14 0.00 0.00 0.00  
Delay/Veh: 42.6 10.0 0.0 0.0 15.1 14.6 24.4 0.0 22.8 0.0 0.0 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 42.6 10.0 0.0 0.0 15.1 14.6 24.4 0.0 22.8 0.0 0.0 0.0  
LOS by Move: D B A A B B C A C A A A  
HCM2k95thQ: 3 10 0 0 10 7 8 0 3 0 0 0  
Note: Queue reported is the number of cars per lane.













Weekend Midday Peak Hour - Future Conditions  
TIS for the Pinoleville Pomo Nation Casino  
County of Mendocino

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #8 N State St/US 101 SB On-Ramp

Average Delay (sec/veh): 2.4 Worst Case Level Of Service: C [18.4]

Street Name: N State St US 101 SB On-Ramp

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Uncontrolled Uncontrolled

Rights: Include Include Include Include

Lanes: 0 0 2 0 1 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module: Base Vol: 0 938 193 191 930 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Growth Adj: 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16

Initial Bse: 0 1088 224 222 1079 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 0 1088 224 222 1079 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Reduct Vol: 0

Final Volume: 0 1088 224 222 1079 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Critical Gap Module: Critical Gap: 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1

FollowUpTim: 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2

Capacity Module: Conflict Vol: 1312 534 534 0.41 2.0 18.4

Potent Cap.: 534 534 534 0.41 2.0 18.4

Move Cap.: 534 534 534 0.41 2.0 18.4

Volume/Cap: 0.41 2.0 18.4

Level Of Service Module: 2Way95thQ: 2.0 18.4

Control Del: 18.4

LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: 534 534 534 0.41 2.0 18.4

Shared Queue: 534 534 534 0.41 2.0 18.4

Shrd ConDel: 534 534 534 0.41 2.0 18.4

Shared LOS: \*

ApproachDel: XXXXXX

ApproachLOS: \*

Note: Queue reported is the number of cars per lane.

\*\*\*\*\*

PM Peak Hour - Future Conditions  
TIS for the Pinoleville Pomo Nation Casino  
County of Mendocino

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
Intersection #8 N State St/US 101 SB On-Ramp

Average Delay (sec/veh): 2.4 Worst Case Level Of Service: C [18.4]

Street Name: N State St US 101 SB On-Ramp

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Uncontrolled Uncontrolled

Rights: Include Include Include Include

Lanes: 0 0 2 0 1 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module: Base Vol: 0 938 193 191 930 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Growth Adj: 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16

Initial Bse: 0 1088 224 222 1079 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Volume: 0 1088 224 222 1079 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Reduct Vol: 0

Final Volume: 0 1088 224 222 1079 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Critical Gap Module: Critical Gap: 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1 4.1

FollowUpTim: 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2

Capacity Module: Conflict Vol: 1312 534 534 0.41 2.0 18.4

Potent Cap.: 534 534 534 0.41 2.0 18.4

Move Cap.: 534 534 534 0.41 2.0 18.4

Volume/Cap: 0.41 2.0 18.4

Level Of Service Module: 2Way95thQ: 2.0 18.4

Control Del: 18.4

LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: 534 534 534 0.41 2.0 18.4

Shared Queue: 534 534 534 0.41 2.0 18.4

Shrd ConDel: 534 534 534 0.41 2.0 18.4

Shared LOS: \*

ApproachDel: XXXXXX

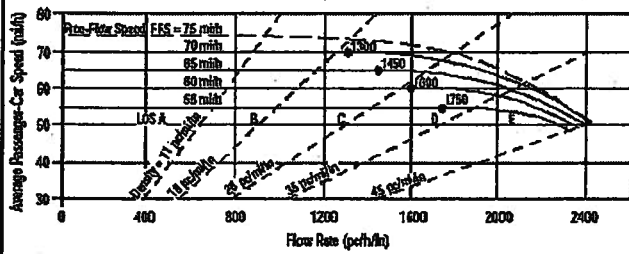
ApproachLOS: \*

Note: Queue reported is the number of cars per lane.

\*\*\*\*\*



**BASIC FREEWAY SEGMENTS WORKSHEET**



Application	Input	Output
Operational (LOS)	FFS, N, $v_p$	LOS, S, D
Design (N)	FFS, LOS, $v_p$	N, S, D
Design ( $v_p$ )	FFS, LOS, N	$v_p$ , S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning ( $v_p$ )	FFS, LOS, N	$v_p$ , S, D

**General Information**

**Site Information**

Analyst	TDH	Highway/Direction of Travel	US 101 Northbound
Agency or Company	W-Trans	From/To	Perkins St to N State St
Date Performed	9/15/2009	Jurisdiction	County of Mendocino
Analysis Time Period	Future PM Peak Hour	Analysis Year	2030

Project Description Traffic Impact Study for the Pinoleville Casino

Oper.(LOS)       Des.(N)       Planning Data

**Flow Inputs**

Volume, V	2003	veh/h	Peak-Hour Factor, PHF	0.92
AADT		veh/day	%Trucks and Buses, $P_T$	9
Peak-Hr Prop. of AADT, K			%RVs, $P_R$	2
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AADT x K x D		veh/h	Grade %	Length mi
Driver type adjustment	1.00		Up/Down %	

**Calculate Flow Adjustments**

$f_p$	1.00	$E_R$	1.2
$E_T$	1.5	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	0.953

**Speed Inputs**

**Calc Speed Adj and FFS**

Lane Width	12.0	ft	$f_{LW}$	mi/h
Rt-Shoulder Lat. Clearance	6.0	ft	$f_{LC}$	mi/h
Interchange Density	0.50	l/mi	$f_{ID}$	mi/h
Number of Lanes, N	2		$f_N$	mi/h
FFS (measured)	70.0	mi/h	FFS	70.0
Base free-flow Speed, BFFS		mi/h		

**LOS and Performance Measures**

**Design (N)**

Operational (LOS)			Design (N)	
$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	1142	pc/h/ln	Design LOS	
S	70.0	mi/h	$v_p = (V \text{ or } DDHV) / (PHF \times N \times f_{HV} \times f_p)$	pc/h
$D = v_p / S$	16.3	pc/mi/ln	S	mi/h
LOS	B		$D = v_p / S$	pc/mi/ln
			Required Number of Lanes, N	.

**Glossary**

**Factor Location**

N - Number of lanes	S - Speed	$E_R$ - Exhibits 23-8, 23-10	$f_{LW}$ - Exhibit 23-4
V - Hourly volume	D - Density	$E_T$ - Exhibits 23-8, 23-10, 23-11	$f_{LC}$ - Exhibit 23-5
$v_p$ - Flow rate	FFS - Free-flow speed	$f_p$ - Page 23-12	$f_N$ - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, $v_p$ - Exhibits 23-2, 23-3	$f_{ID}$ - Exhibit 23-7
DDHV - Directional design hour volume			

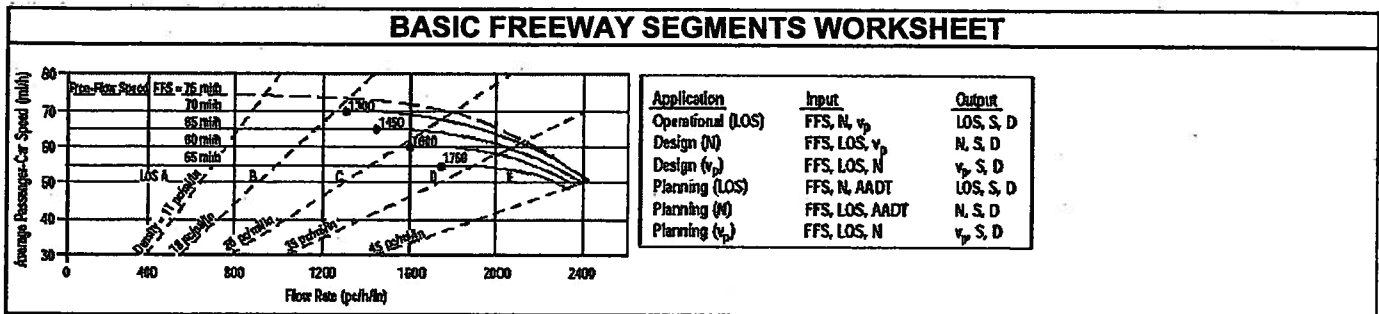
BASIC FREEWAY SEGMENTS WORKSHEET																								
	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Application</th> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>Operational (LOS)</td> <td>FFS, N, v<sub>p</sub></td> <td>LOS, S, D</td> </tr> <tr> <td>Design (N)</td> <td>FFS, LOS, v<sub>p</sub></td> <td>N, S, D</td> </tr> <tr> <td>Design (v<sub>p</sub>)</td> <td>FFS, LOS, N</td> <td>v<sub>p</sub>, S, D</td> </tr> <tr> <td>Planning (LOS)</td> <td>FFS, N, AADT</td> <td>LOS, S, D</td> </tr> <tr> <td>Planning (N)</td> <td>FFS, LOS, AADT</td> <td>N, S, D</td> </tr> <tr> <td>Planning (v<sub>p</sub>)</td> <td>FFS, LOS, N</td> <td>v<sub>p</sub>, S, D</td> </tr> </tbody> </table>			Application	Input	Output	Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D	Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D	Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D	Planning (LOS)	FFS, N, AADT	LOS, S, D	Planning (N)	FFS, LOS, AADT	N, S, D	Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D
Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (N)	FFS, LOS, AADT	N, S, D																						
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound																					
Agency or Company	W-Trans	From/To	N State St to W Lake Mendocino																					
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																					
Analysis Time Period	Future PM Peak Hour	Analysis Year	2030																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data																					
<b>Flow Inputs</b>																								
Volume, V	1968	veh/h	Peak-Hour Factor, PHF																					
AAAT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AAAT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AAAT x K x D		veh/h	Grade % Length																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00		E <sub>R</sub>																					
E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]																					
			1.2																					
			0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )		Design LOS																						
	1122	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
S	70.0	mi/h	f <sub>p</sub>																					
D = v <sub>p</sub> / S	16.0	pc/mi/ln	S																					
LOS	B		D = v <sub>p</sub> / S																					
			pc/mi/ln																					
			Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								

BASIC FREEWAY SEGMENTS WORKSHEET																								
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Application	Input	Output																						
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<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound																					
Agency or Company	W-Trans	From/To	W Lake Mendocino to Moore St																					
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																					
Analysis Time Period	Future PM Peak Hour	Analysis Year	2030																					
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Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AADT x K x D		veh/h	Grade % Length																					
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<b>Calculate Flow Adjustments</b>																								
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Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
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v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	1102	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
S	70.0	mi/h	S																					
D = v <sub>p</sub> / S	15.7	pc/mi/ln	D = v <sub>p</sub> / S																					
LOS	B		Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
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LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume		3																						

BASIC FREEWAY SEGMENTS WORKSHEET																								
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Application	Input	Output																						
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Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
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<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Southbound																					
Agency or Company	W-Trans	From/To	Perkins St to N State St																					
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																					
Analysis Time Period	Future PM Peak Hour	Analysis Year	2030																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper. (LOS)		<input checked="" type="checkbox"/> Des. (N)																						
<b>Flow Inputs</b>																								
Volume, V	2449	veh/h	Peak-Hour Factor, PHF 0.92																					
AADT		veh/day	%Trucks and Buses, P <sub>T</sub> 9																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub> 2																					
Peak-Hr Direction Prop, D			General Terrain: Level																					
DDHV = AADT x K x D		veh/h	Grade % Length mi																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00		E <sub>R</sub> 1.2																					
E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> -1)+P <sub>R</sub> (E <sub>R</sub> -1)] 0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub> mi/h																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub> mi/h																					
Interchange Density	0.50	l/mi	f <sub>ID</sub> mi/h																					
Number of Lanes, N	2		f <sub>N</sub> mi/h																					
FFS (measured)	70.0	mi/h	FFS 70.0 mi/h																					
Base free-flow Speed, BFFS		mi/h																						
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> )	1396	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> )																					
x f <sub>p</sub> )			x f <sub>p</sub> )																					
S	70.0	mi/h	S																					
D = v <sub>p</sub> / S	20.0	pc/mi/ln	D = v <sub>p</sub> / S																					
LOS	C		Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								



BASIC FREEWAY SEGMENTS WORKSHEET																								
	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Application</th> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>Operational (LOS)</td> <td>FFS, N, v<sub>p</sub></td> <td>LOS, S, D</td> </tr> <tr> <td>Design (N)</td> <td>FFS, LOS, v<sub>p</sub></td> <td>N, S, D</td> </tr> <tr> <td>Design (v<sub>p</sub>)</td> <td>FFS, LOS, N</td> <td>v<sub>p</sub>, S, D</td> </tr> <tr> <td>Planning (LOS)</td> <td>FFS, N, AADT</td> <td>LOS, S, D</td> </tr> <tr> <td>Planning (N)</td> <td>FFS, LOS, AADT</td> <td>N, S, D</td> </tr> <tr> <td>Planning (v<sub>p</sub>)</td> <td>FFS, LOS, N</td> <td>v<sub>p</sub>, S, D</td> </tr> </tbody> </table>			Application	Input	Output	Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D	Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D	Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D	Planning (LOS)	FFS, N, AADT	LOS, S, D	Planning (N)	FFS, LOS, AADT	N, S, D	Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D
Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
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Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Southbound																					
Agency or Company	W-Trans	From/To	N State St to W Lake Mendocino																					
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																					
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Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)																						
<b>Flow Inputs</b>																								
Volume, V	2406	veh/h	Peak-Hour Factor, PHF																					
AADT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
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E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]																					
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Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	1372	pc/h/ln	Design LOS																					
S	70.0	mi/h	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
D = v <sub>p</sub> / S	19.6	pc/mi/ln	f <sub>p</sub>																					
LOS	C		S																					
			D = v <sub>p</sub> / S																					
			pc/mi/ln																					
			Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
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LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								



General Information		Site Information	
Analyst	TDH	Highway/Direction of Travel	US 101 Southbound
Agency or Company	W-Trans	From/To	W Lake Mendocino to Moore St
Date Performed	9/15/2009	Jurisdiction	County of Mendocino
Analysis Time Period	Future PM Peak Hour	Analysis Year	2030
Project Description Traffic Impact Study for the Pinoleville Casino			

Oper.(LOS)                     
  Des.(N)                     
  Planning Data

#### Flow Inputs

Volume, V	2363	veh/h	Peak-Hour Factor, PHF	0.92
AACT		veh/day	%Trucks and Buses, P <sub>T</sub>	9
Peak-Hr Prop. of AACT, K			%RVs, P <sub>R</sub>	2
Peak-Hr Direction Prop, D			General Terrain:	Level
DDHV = AACT x K x D		veh/h	Grade % Length	mi
Driver type adjustment	1.00		Up/Down %	

#### Calculate Flow Adjustments

f <sub>p</sub>	1.00	E <sub>R</sub>	1.2
E <sub>T</sub>	1.5	f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]	0.953

Speed Inputs	Calc Speed Adj and FFS		
Lane Width	12.0 ft	f <sub>LW</sub>	mi/h
Rt-Shoulder Lat. Clearance	6.0 ft	f <sub>LC</sub>	mi/h
Interchange Density	0.50 l/mi	f <sub>ID</sub>	mi/h
Number of Lanes, N	2	f <sub>N</sub>	mi/h
FFS (measured)	70.0 mi/h	FFS	70.0 mi/h
Base free-flow Speed, BFFS	mi/h		

LOS and Performance Measures	Design (N)
Operational (LOS)	Design (N)
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	Design LOS
	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )
f <sub>p</sub>	1347 pc/h/ln
S	70.0 mi/h
D = v <sub>p</sub> / S	19.2 pc/mi/ln
LOS	C
	Required Number of Lanes, N

Glossary	Factor Location		
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f - Page 23-12	f <sub>N</sub> - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7
DDHV - Directional design hour volume			





PM Peak Hour - Future plus Project Conditions  
Traffic Study for the Pinoleville Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)  
Intersection #2 W Lake Mendocino Dr/US 101 NB Ramps

Average Delay (sec/veh): 3.5 Worst Case Level of Service: B [11.6]  
Street Name: US 101 NB Ramps W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include Include  
Lanes: 0 1 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0

Volume Module: >> Count Date: 25 Jun 2009 << 4:30 - 5:30 pm  
Base Vol: 8 0 251 0 0 6 119 0 0 262 205  
Growth Adj: 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16  
Initial Bse: 9 0 291 0 0 0 7 138 0 0 304 238  
Added Vol: 0 0 11 0 0 0 0 0 57 0 0 10 54  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 9 0 302 0 0 0 7 195 0 0 314 292  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 9 0 302 0 0 0 7 195 0 0 314 292  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 9 0 302 0 0 0 7 195 0 0 314 292

Critical Gap Module:  
Critical Gp: 6.4 6.5 6.2 XXXXX XXXX XXXX 4.1 XXX XXXX XXXX XXXX XXXX  
FollowUpTim: 3.5 4.0 3.3 XXXXX XXXX XXXX 2.2 XXX XXXX XXXX XXXX XXXX

Capacity Module:  
Conflict Vol: 669 815 195 XXXX XXXX XXXX 606 XXXX XXXX XXXX XXXX XXXX  
Potent Cap.: 426 314 851 XXXX XXXX XXXX 982 XXXX XXXX XXXX XXXX XXXX  
Move Cap.: 424 312 851 XXXX XXXX XXXX 982 XXXX XXXX XXXX XXXX XXXX  
Volume/Cap: 0.02 0.00 0.35 XXXX XXXX XXXX 0.01 XXXX XXXX XXXX XXXX XXXX

Level of Service Module:  
2Way95thQ: XXXX XXXX 1.6 XXXX XXXX XXXX 0.0 XXXX XXXX XXXX XXXX XXXX  
Control Del:XXXX XXXX 11.5 XXXX XXXX XXXX 8.7 XXX XXXX XXXX XXXX XXXX  
LOS by Move: \* \* \* \* \* A \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: 424 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
SharedQueue: 0.1 XXXX XXXX XXXX XXXX XXXX 0.0 XXX XXXX XXXX XXXX XXXX  
Shrd ConDel: 13.7 XXXX XXXX XXXX XXXX 8.7 XXX XXXX XXXX XXXX XXXX  
Shared LOS: B \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: 11.6 XXXXXX XXXXXX XXXXXX  
ApproachLOS: B \* \* \* \* \*  
Note: Queue reported is the number of cars per lane.

Weekend Midday Peak Hour - Future plus Project Conditions  
Traffic Study for the Pinoleville Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)  
Intersection #2 W Lake Mendocino Dr/US 101 NB Ramps

Average Delay (sec/veh): 3.1 Worst Case Level of Service: B [10.4]  
Street Name: US 101 NB Ramps W Lake Mendocino Dr  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include Include  
Lanes: 0 1 0 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0

Volume Module: >> Count Date: 27 Jun 2009 << 12:00 - 1:00 pm  
Base Vol: 13 0 143 0 0 8 90 0 0 168 102  
Growth Adj: 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16  
Initial Bse: 15 0 166 0 0 0 9 104 0 0 195 118  
Added Vol: 0 0 14 0 0 0 0 0 76 0 0 11 58  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 15 0 180 0 0 0 9 180 0 0 206 176  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 15 0 180 0 0 0 9 180 0 0 206 176  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 15 0 180 0 0 0 9 180 0 0 206 176

Critical Gap Module:  
Critical Gp: 6.4 6.5 6.2 XXXXX XXXX XXXX 4.1 XXX XXXX XXXX XXXX XXXX  
FollowUpTim: 3.5 4.0 3.3 XXXXX XXXX XXXX 2.2 XXX XXXX XXXX XXXX XXXX

Capacity Module:  
Conflict Vol: 493 581 180 XXXX XXXX XXXX 382 XXXX XXXX XXXX XXXX XXXX  
Potent Cap.: 539 428 868 XXXX XXXX XXXX 1187 XXXX XXXX XXXX XXXX XXXX  
Move Cap.: 536 424 868 XXXX XXXX XXXX 1187 XXXX XXXX XXXX XXXX XXXX  
Volume/Cap: 0.03 0.00 0.21 XXXX XXXX XXXX 0.01 XXXX XXXX XXXX XXXX XXXX

Level of Service Module:  
2Way95thQ: XXXX XXXX 0.8 XXXX XXXX XXXX 0.0 XXXX XXXX XXXX XXXX XXXX  
Control Del:XXXX XXXX 10.2 XXXX XXXX XXXX 8.1 XXX XXXX XXXX XXXX XXXX  
LOS by Move: \* \* \* \* \* B \* \* \* \* \*  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: 536 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
SharedQueue: 0.1 XXXX XXXX XXXX XXXX XXXX 0.0 XXX XXXX XXXX XXXX XXXX  
Shrd ConDel: 11.9 XXXX XXXX XXXX XXXX 8.1 XXX XXXX XXXX XXXX XXXX  
Shared LOS: B \* \* \* \* \* A \* \* \* \* \*  
ApproachDel: 10.4 XXXXXX XXXXXX XXXXXX  
ApproachLOS: B \* \* \* \* \*  
Note: Queue reported is the number of cars per lane.





Level Of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)  
 Intersection #4 N State St/Project Access

Cycle (sec): 100 Critical Vol./Cap.(X): 0.593  
 Loss Time (sec): 8 (Y+R=4.0 sec) Average Delay (sec/veh): 17.4  
 Optimal Cycle: 38 Level Of Service: B

Street Name: N State St Project Access  
 Approach: North Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R

Control:	Protected			Split Phase			Split Phase		
	Include	Include	Include	Include	Include	Include	Include	Include	
Rights:	0	0	0	0	0	0	0	0	0
Min. Green:	1	0	0	1	0	0	1	0	0
Lanes:	1	0	0	1	0	0	1	0	0

Volume Module:

Base Vol:	0	543	0	0	449	0	0	0	0
Growth Adj:	1.00	1.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	706	0	0	584	0	0	0	0
Added Vol:	132	0	0	78	74	0	127	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0
Initial Fut:	132	706	0	584	78	74	127	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	132	706	0	584	78	74	127	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0
Reduced Vol:	132	706	0	584	78	74	127	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	132	706	0	584	78	74	127	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	0.98	0.90	1.00	0.90	1.00	1.00
Lanes:	1.00	1.00	0.00	1.00	0.88	0.12	0.37	0.00	0.63
Final Sat.:	1805	1900	0	1900	1646	220	629	0	1079

Capacity Analysis Module:  
 Vol/Sat: 0.07 0.37 0.00 0.00 0.35 0.35 0.12 0.00 0.12 0.00 0.00 0.00  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.12 0.72 0.00 0.00 0.60 0.60 0.20 0.00 0.00 0.00 0.00  
 Volume/Cap: 0.59 0.51 0.00 0.00 0.59 0.59 0.00 0.59 0.00 0.00 0.00  
 Delay/Veh: 45.7 6.5 0.0 0.0 13.4 13.4 39.2 0.0 39.2 0.0 0.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 45.7 6.5 0.0 0.0 13.4 13.4 39.2 0.0 39.2 0.0 0.0  
 LOS by Move: D A A A B B D A D A A A  
 HCM2k95thQ: 9 18 0 0 22 22 12 0 12 0 0 0  
 Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)  
 Intersection #4 N State St/Project Access

Cycle (sec): 100 Critical Vol./Cap.(X): 0.512  
 Loss Time (sec): 8 (Y+R=4.0 sec) Average Delay (sec/veh): 20.9  
 Optimal Cycle: 33 Level Of Service: C

Street Name: N State St Project Access  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control:	Protected			Split Phase			Split Phase		
	Include	Include	Include	Include	Include	Include	Include	Include	
Rights:	0	0	0	0	0	0	0	0	0
Min. Green:	1	0	0	1	0	0	1	0	0
Lanes:	1	0	0	1	0	0	1	0	0

Volume Module:

Base Vol:	0	435	0	0	270	0	0	0	0
Growth Adj:	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Initial Bse:	0	566	0	0	351	0	0	0	0
Added Vol:	178	0	0	0	104	79	0	134	0
PasserByVol:	0	0	0	0	0	0	0	0	0
Initial Fut:	178	566	0	351	104	79	0	134	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	178	566	0	351	104	79	0	134	0
Reduct Vol:	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	566	0	351	104	79	0	134	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	566	0	351	104	79	0	134	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	1.00	1.00	0.97	0.97	0.90	1.00	0.90
Lanes:	1.00	1.00	0.00	1.00	0.77	0.23	0.37	0.00	0.63
Final Sat.:	1805	1900	0	1900	1416	420	633	0	1074

Capacity Analysis Module:  
 Vol/Sat: 0.10 0.30 0.00 0.00 0.25 0.25 0.12 0.00 0.12 0.00 0.00 0.00  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.19 0.68 0.00 0.00 0.48 0.48 0.24 0.00 0.24 0.00 0.00 0.00  
 Volume/Cap: 0.51 0.44 0.00 0.00 0.51 0.51 0.51 0.51 0.51 0.51 0.00 0.00  
 Delay/Veh: 37.5 7.7 0.0 0.0 18.2 18.2 33.8 0.0 33.8 0.0 0.0 0.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 37.5 7.7 0.0 0.0 18.2 18.2 33.8 0.0 33.8 0.0 0.0 0.0  
 LOS by Move: D A A A B B C A C A A A  
 HCM2k95thQ: 11 15 0 0 17 17 12 0 12 0 0 0  
 Note: Queue reported is the number of cars per lane.











PM Peak Hour - Future plus Project Conditions  
Traffic Study for the Pinoleville Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)  
\*\*\*\*\*  
Intersection #8 N State St/US 101 SB On-Ramp  
\*\*\*\*\*

Average Delay (sec/veh): 2.5 Worst Case Level of Service: C[ 22.0]  
\*\*\*\*\*

Street Name: N State St US 101 SB On-Ramp  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 0 2 0 1 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module:  
Base Vol: 0 938 193 191 930 0 0 0 0 0 0 0  
Growth Adj: 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16  
Initial Bse: 0 1088 224 222 1079 0 0 0 0 0 0 0  
Added Vol: 0 32 0 90 30 0 0 0 0 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 1120 224 312 1109 0 0 0 0 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 1120 224 312 1109 0 0 0 0 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 1120 224 312 1109 0 0 0 0 0 0 0

Critical Gap Module:  
Critical Gap:XXXXX XXXX XXXXX 4.1 XXXX XXXXX XXXX XXXX XXXX XXXX XXXX XXXX  
FollowUpTrim:XXXXX XXXX XXXXX 2.2 XXXX XXXXX XXXX XXXX XXXX XXXX XXXX XXXX

Capacity Module:  
Conflict Vol: XXXX XXXX XXXXX 1344 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Potential Cap.: XXXX XXXX XXXXX 519 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Move Cap.: XXXX XXXX XXXXX 519 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Volume/Cap.: XXXX XXXX XXXX 0.60 XXXX XXXX XXXX XXXX XXXXX XXXX XXXX XXXXX

Level of Service Module:  
2Way95thQ: XXXX XXXX XXXXX 3.9 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Control Del:XXXXX XXXX XXXXX 22.0 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
LOS by Move: \* \* \* \* \* L T - LTR - RT L T - LTR - RT  
Movement: L T - LTR - RT L T - LTR - RT L T - LTR - RT L T - LTR - RT  
Shared Cap.: XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
SharedQueue:XXXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Shrd ConDel:XXXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Shared LOS: \* \* \* \* \* XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
ApproachDel: XXXXXX \* XXXXXX \* XXXXXX \* XXXXXX \*  
ApproachLOS: \* \* \* \* \* XXXXXX \* XXXXXX \* XXXXXX \* XXXXXX \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

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Weekend Midday Peak Hour - Future plus Project Conditions  
Traffic Study for the Pinoleville Casino  
County of Mendocino

Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)  
\*\*\*\*\*  
Intersection #8 N State St/US 101 SB On-Ramp  
\*\*\*\*\*

Average Delay (sec/veh): 1.8 Worst Case Level of Service: B[ 11.4]  
\*\*\*\*\*

Street Name: N State St US 101 SB On-Ramp  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 0 2 0 1 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module:  
Base Vol: 0 574 158 89 723 0 0 0 0 0 0 0  
Growth Adj: 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16 1.16  
Initial Bse: 0 666 183 103 839 0 0 0 0 0 0 0  
Added Vol: 0 42 0 96 32 0 0 0 0 0 0 0  
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 708 183 199 871 0 0 0 0 0 0 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Volume: 0 708 183 199 871 0 0 0 0 0 0 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 708 183 199 871 0 0 0 0 0 0 0

Critical Gap Module:  
Critical Gap:XXXXX XXXX XXXXX 4.1 XXXX XXXXX XXXX XXXX XXXX XXXX XXXX XXXX  
FollowUpTrim:XXXXX XXXX XXXXX 2.2 XXXX XXXXX XXXX XXXX XXXX XXXX XXXX XXXX

Capacity Module:  
Conflict Vol: XXXX XXXX XXXXX 891 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Potential Cap.: XXXX XXXX XXXXX 769 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Move Cap.: XXXX XXXX XXXXX 769 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Volume/Cap.: XXXX XXXX XXXX 0.26 XXXX XXXX XXXX XXXX XXXXX XXXX XXXX XXXXX

Level of Service Module:  
2Way95thQ: XXXX XXXX XXXXX 1.0 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Control Del:XXXXX XXXX XXXXX 11.4 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
LOS by Move: \* \* \* \* \* B \* \* \* \* \*  
Movement: L T - LTR - RT L T - LTR - RT L T - LTR - RT L T - LTR - RT  
Shared Cap.: XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
SharedQueue:XXXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Shrd ConDel:XXXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Shared LOS: \* \* \* \* \* XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXX  
ApproachDel: XXXXXX \* XXXXXX \* XXXXXX \* XXXXXX \*  
ApproachLOS: \* \* \* \* \* XXXXXX \* XXXXXX \* XXXXXX \* XXXXXX \*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

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BASIC FREEWAY SEGMENTS WORKSHEET																								
		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Application</th> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>Operational (LOS)</td> <td>FFS, N, v<sub>p</sub></td> <td>LOS, S, D</td> </tr> <tr> <td>Design (N)</td> <td>FFS, LOS, v<sub>p</sub></td> <td>N, S, D</td> </tr> <tr> <td>Design (v<sub>p</sub>)</td> <td>FFS, LOS, N</td> <td>v<sub>p</sub>, S, D</td> </tr> <tr> <td>Planning (LOS)</td> <td>FFS, N, AADT</td> <td>LOS, S, D</td> </tr> <tr> <td>Planning (N)</td> <td>FFS, LOS, AADT</td> <td>N, S, D</td> </tr> <tr> <td>Planning (v<sub>p</sub>)</td> <td>FFS, LOS, N</td> <td>v<sub>p</sub>, S, D</td> </tr> </tbody> </table>		Application	Input	Output	Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D	Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D	Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D	Planning (LOS)	FFS, N, AADT	LOS, S, D	Planning (N)	FFS, LOS, AADT	N, S, D	Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D
Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (N)	FFS, LOS, AADT	N, S, D																						
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound																					
Agency or Company	W-Trans	From/To	Perkins St to N State St																					
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																					
Analysis Time Period	Future + Project PM Peak Hour	Analysis Year	2030																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)	<input checked="" type="checkbox"/> Planning Data																					
<b>Flow Inputs</b>																								
Volume, V	2111	veh/h	Peak-Hour Factor, PHF																					
AADT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AADT x K x D		veh/h	Grade % Length mi																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00		E <sub>R</sub>																					
E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]																					
			1.2																					
			0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	1203	pc/h/ln	Design LOS																					
S	70.0	mi/h	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
D = v <sub>p</sub> / S	17.2	pc/mi/ln	S																					
LOS	B		D = v <sub>p</sub> / S																					
			Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								

BASIC FREEWAY SEGMENTS WORKSHEET																								
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Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (N)	FFS, LOS, AADT	N, S, D																						
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound																					
Agency or Company	W-Trans	From/To	N State St to W Lake Mendocino																					
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																					
Analysis Time Period	Future + Project PM Peak Hour	Analysis Year	2030																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)	<input type="checkbox"/> Planning Data																					
<b>Flow Inputs</b>																								
Volume, V	1774	veh/h	Peak-Hour Factor, PHF 0.92																					
AACT		veh/day	%Trucks and Buses, P <sub>T</sub> 9																					
Peak-Hr Prop. of AACT, K			%RVs, P <sub>R</sub> 2																					
Peak-Hr Direction Prop, D			General Terrain: Level																					
DDHV = AACT x K x D		veh/h	Grade % Length mi																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00		E <sub>R</sub> 1.2																					
E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)] 0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub> mi/h																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub> mi/h																					
Interchange Density	0.50	l/mi	f <sub>ID</sub> mi/h																					
Number of Lanes, N	2		f <sub>N</sub> mi/h																					
FFS (measured)	70.0	mi/h	FFS 70.0 mi/h																					
Base free-flow Speed, BFFS		mi/h																						
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	1125	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
S	70.0	mi/h	f <sub>p</sub>																					
D = v <sub>p</sub> / S	16.1	pc/mi/ln	S																					
LOS	B		D = v <sub>p</sub> / S																					
			Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	f <sub>p</sub>	f <sub>N</sub> - Exhibit 23-6																					
DDHV - Directional design hour volume		LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					



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Application	Input	Output																						
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Planning (LOS)	FFS, N, AADT	LOS, S, D																						
Planning (N)	FFS, LOS, AADT	N, S, D																						
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Northbound																					
Agency or Company	W-Trans	From/To	W Lake Mendocino to Moore St																					
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																					
Analysis Time Period	Future + Project PM Peak Hour	Analysis Year	2030																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
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<b>Flow Inputs</b>																								
Volume, V	1995	veh/h	Peak-Hour Factor, PHF																					
AADT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
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Driver type adjustment	1.00		Up/Down %																					
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f <sub>p</sub>	1.00		E <sub>R</sub>																					
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			1.2																					
			0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	1137	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
S	70.0	mi/h	S																					
D = v <sub>p</sub> / S	16.2	pc/mi/ln	D = v <sub>p</sub> / S																					
LOS	B		Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
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Application	Input	Output																				
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																				
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																				
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																				
Planning (LOS)	FFS, N, AADT	LOS, S, D																				
Planning (N)	FFS, LOS, AADT	N, S, D																				
Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																				
<b>General Information</b>		<b>Site Information</b>																				
Analyst	TDH	Highway/Direction of Travel	US 101 Southbound																			
Agency or Company	W-Trans	From/To	Perkins St to N State St																			
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																			
Analysis Time Period	Future + Project PM Peak Hour	Analysis Year	2030																			
Project Description Traffic Impact Study for the Pinoleville Casino																						
<input checked="" type="checkbox"/> Oper.(LOS)		<input checked="" type="checkbox"/> Des.(N)																				
<input type="checkbox"/> Planning Data																						
<b>Flow Inputs</b>																						
Volume, V	2552	veh/h	Peak-Hour Factor, PHF																			
AADT		veh/day	%Trucks and Buses, P <sub>T</sub>																			
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub>																			
Peak-Hr Direction Prop, D			General Terrain:																			
DDHV = AADT x K x D		veh/h	Grade % Length																			
Driver type adjustment	1.00		Up/Down %																			
<b>Calculate Flow Adjustments</b>																						
f <sub>p</sub>	1.00	E <sub>R</sub>	1.2																			
E <sub>T</sub>	1.5	f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]	0.953																			
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																				
Lane Width	12.0	ft	f <sub>LW</sub>																			
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																			
Interchange Density	0.50	l/mi	f <sub>ID</sub>																			
Number of Lanes, N	2		f <sub>N</sub>																			
FFS (measured)	70.0	mi/h	FFS																			
Base free-flow Speed, BFFS		mi/h	70.0																			
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																				
<b>Operational (LOS)</b>		<b>Design (N)</b>																				
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	1455	pc/h/ln	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																			
S	69.9	mi/h	S																			
D = v <sub>p</sub> / S	20.8	pc/mi/ln	D = v <sub>p</sub> / S																			
LOS	C		Required Number of Lanes, N																			
<b>Glossary</b>		<b>Factor Location</b>																				
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																			
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																			
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																			
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																			
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Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
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Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS) <input type="checkbox"/> Des.(N) <input type="checkbox"/> Planning Data																								
<b>Flow Inputs</b>																								
Volume, V	2412	veh/h	Peak-Hour Factor, PHF 0.92																					
AADT		veh/day	%Trucks and Buses, P <sub>T</sub> 9																					
Peak-Hr Prop. of AADT, K			%RVs, P <sub>R</sub> 2																					
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FFS (measured)	70.0	mi/h	FFS 70.0 mi/h																					
Base free-flow Speed, BFFS		mi/h																						
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	1375	pc/h/ln	Design LOS																					
S	70.0	mi/h	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
D = v <sub>p</sub> / S	19.6	pc/mi/ln	S																					
LOS	C		D = v <sub>p</sub> / S																					
			Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
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Application	Input	Output																						
Operational (LOS)	FFS, N, v <sub>p</sub>	LOS, S, D																						
Design (N)	FFS, LOS, v <sub>p</sub>	N, S, D																						
Design (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
Planning (LOS)	FFS, N, AADT	LOS, S, D																						
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Planning (v <sub>p</sub> )	FFS, LOS, N	v <sub>p</sub> , S, D																						
<b>General Information</b>		<b>Site Information</b>																						
Analyst	TDH	Highway/Direction of Travel	US 101 Southbound																					
Agency or Company	W-Trans	From/To	W Lake Mendocino to Moore St																					
Date Performed	9/15/2009	Jurisdiction	County of Mendocino																					
Analysis Time Period	Future + Project PM Peak Hour	Analysis Year	2030																					
Project Description Traffic Impact Study for the Pinoleville Casino																								
<input checked="" type="checkbox"/> Oper.(LOS)		<input type="checkbox"/> Des.(N)																						
<input type="checkbox"/> Planning Data																								
<b>Flow Inputs</b>																								
Volume, V	2428	veh/h	Peak-Hour Factor, PHF																					
AAADT		veh/day	%Trucks and Buses, P <sub>T</sub>																					
Peak-Hr Prop. of AAADT, K			%RVs, P <sub>R</sub>																					
Peak-Hr Direction Prop, D			General Terrain:																					
DDHV = AAADT x K x D		veh/h	Grade % Length mi																					
Driver type adjustment	1.00		Up/Down %																					
<b>Calculate Flow Adjustments</b>																								
f <sub>p</sub>	1.00		E <sub>R</sub>																					
E <sub>T</sub>	1.5		f <sub>HV</sub> = 1/[1+P <sub>T</sub> (E <sub>T</sub> - 1) + P <sub>R</sub> (E <sub>R</sub> - 1)]																					
			1.2																					
			0.953																					
<b>Speed Inputs</b>		<b>Calc Speed Adj and FFS</b>																						
Lane Width	12.0	ft	f <sub>LW</sub>																					
Rt-Shoulder Lat. Clearance	6.0	ft	f <sub>LC</sub>																					
Interchange Density	0.50	l/mi	f <sub>ID</sub>																					
Number of Lanes, N	2		f <sub>N</sub>																					
FFS (measured)	70.0	mi/h	FFS																					
Base free-flow Speed, BFFS		mi/h	70.0																					
<b>LOS and Performance Measures</b>		<b>Design (N)</b>																						
<b>Operational (LOS)</b>		<b>Design (N)</b>																						
v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )	1384	pc/h/ln	Design LOS																					
S	70.0	mi/h	v <sub>p</sub> = (V or DDHV) / (PHF x N x f <sub>HV</sub> x f <sub>p</sub> )																					
D = v <sub>p</sub> / S	19.8	pc/mi/ln	f <sub>p</sub>																					
LOS	C		S																					
			D = v <sub>p</sub> / S																					
			Required Number of Lanes, N																					
<b>Glossary</b>		<b>Factor Location</b>																						
N - Number of lanes	S - Speed	E <sub>R</sub> - Exhibits 23-8, 23-10	f <sub>LW</sub> - Exhibit 23-4																					
V - Hourly volume	D - Density	E <sub>T</sub> - Exhibits 23-8, 23-10, 23-11	f <sub>LC</sub> - Exhibit 23-5																					
v <sub>p</sub> - Flow rate	FFS - Free-flow speed	f <sub>p</sub> - Page 23-12	f <sub>N</sub> - Exhibit 23-6																					
LOS - Level of service	BFFS - Base free-flow speed	LOS, S, FFS, v <sub>p</sub> - Exhibits 23-2, 23-3	f <sub>ID</sub> - Exhibit 23-7																					
DDHV - Directional design hour volume																								



# ***APPENDIX E***

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## ***WATER AND WASTEWATER EVALUATION***

# **WATER AND WASTEWATER EVALUATION**

*For*

*The Pinoleville Pomo Nation*

*December 2009*



*Prepared for:*  
The Pinoleville Pomo Nation of California  
500 B Pinoleville Drive  
Ukiah, California 95482



*Prepared by:*

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***Project No. C051.101.0901***

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## ***Acronyms and Abbreviations***

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BOD	Biochemical Oxygen Demand
City	City of Ukiah
ESSU	equivalent sewer service unit
KENNEC	Kennec, Inc.
MCWD	Millview County Water District
MGD	million gallons per day
PPN	Pinoleville Pomo Nation
Project	proposed casino and hotel facility
RWQCB	Regional Water Quality Control Board
Site	proposed casino and hotel facility site
SSMP	Sewer System Management Plan
SWRCB	State Water Resources Control Board
UVSD	Ukiah Valley Sanitation District
WWTP	waste water treatment plant



## **1.0 INTRODUCTION**

---

The purpose of this report is to evaluate water supply needs and wastewater generation rates of the proposed casino and hotel facility (Project) being developed by the Pinoleville Pomo Nation (PPN). This report also provides a discussion of local water and wastewater public service providers.

### **1.1 Proposed Project**

The Pinoleville Pomo Nation property is located north of the City of Ukiah (City) in Mendocino County, California. The PPN property consists of approximately 99 acres located along the south side of Ackerman Creek and west of North State Street. The proposed project site (Site) is approximately 8.8 acres and is located between North State Street and US Highway 101.

The proposed facility includes a casino with 900 slot machines, 20 gaming tables, a buffet, specialty restaurant, and lounge. In addition, a 125 room hotel will be developed as part of the project. Green design elements such as high efficiency fixtures, drought tolerant landscaping, and water conservation measures will be incorporated to reduce the water and wastewater impact of the Project.

Previously the site was used as an automobile dealership and service center with wastewater handled by an on-site septic system. An existing 1-inch Millview County Water District connection is located near the site entrance.

Anticipated water and wastewater service improvements to the site may include the following:

- Installation of a water supply well field on Tribal land; and
- Installation of a new sewer line for offsite treatment of wastewater by the Ukiah Valley Sanitation District (UVSD).

### **1.2 Regulatory Background**

#### **1.2.1 State Water Rights**

Water rights are generally regulated by state law based on the principal that the oldest water right takes priority. California water rights are based on a dual system established early in the state's history. The system consists of riparian rights and appropriative rights.

Riparian rights are those associated with land adjacent to water sources. These rights allow for diversion of natural flow without storage for reasonable and beneficial purposes on the riparian land. Priorities of riparian right holders generally carry equal weight. Under drought conditions, right holders equally share the reduced supply burden.

Appropriative rights are those rights to use unappropriated water. That is, rights to water not already used by riparian rights. Appropriative rights are prioritized by the date they were established.

Tribal water rights are unique due to the sovereign nation status of the PPN. The United States Supreme Court has long recognized tribal water rights and acknowledged they must be satisfied in the water priority system.

### **1.2.2 Local Water Supply Setting**

Water from Lake Mendocino is used to meet water needs of residents, agriculture, recreation, and fisheries along the Russian River. Mendocino, Sonoma, and Marin counties rely on water from Lake Mendocino. Significant competition for water occurs in drought years. According to the Mendocino County General Plan, current water supplies limit the potential growth of agriculture as well as urban and residential development in certain areas of the county.

There are five water service providers in the Ukiah Valley. Of these, the City of Ukiah provides water within the city limits only, while the Millview County Water District (MCWD) serves the unincorporated area north of the City of Ukiah including the project site. Sources of water include the Russian River and groundwater with primary storage being Lake Mendocino.

On May 30<sup>th</sup>, 2001, The California Department of Health Services issued MCWD Compliance order No. 02-03-01CO-002. The Compliance Order, presented findings that the district had deficiencies in source capacity, distribution capacity and storage. Currently, the district remains under this Compliance Order and is prohibited from adding or upgrading existing services until MCWD acquires or develops new water supplies. New projects can be connected only if a project developer can provide to the district a water supply adequate to meet the demands of their project. New water supplies must meet all Federal and State regulations and standards for a public water supply and must be approved by the State Department of Health prior to MCWD accepting the new supply for use within its boundaries.

### **1.2.3 Local Wastewater Treatment Setting**

The UVSD wastewater collection system is administered and operated by the City on behalf of the sanitation district. Wastewater is treated at the City owned Wastewater Treatment Plant (WWTP). Tertiary treated wastewater is conditionally released to the Russian River under a California State discharge permit.

The UVSD and the City have recently established a Sewer System Management Plan (SSMP) that describes operation and maintenance of the sanitary sewer system. One of the goals of the SSMP is enrollment in the State Water Resources Control Board (SWRCB) General Waste Discharge Requirements program.

Operation of the sewer system is guided by UVSD ordinances. The UVSD has a grease control ordinance that requires food service establishments to install and

maintain a grease trap under a Grease Interceptor Permit. Discharge is defined by equivalent sewer service units (ESSU). ESSU rates for various commercial activities and connection fees are defined in UVSD Ordinance No. 12 and 26, respectively.

## **2.0 PROJECT WATER DEMAND**

---

The Project will require water for a variety of uses. Water conservation as well as the incorporation of water-efficient fixtures is anticipated to play an important role to curb overall water demand. Anticipated water demands are based on the following uses:

### ***Casino Restrooms***

- Lavatories;
- Urinals; and
- Faucets.

### ***Buffet Restaurant, Specialty Restaurant, and Lounge Kitchens***

- Kitchen faucets;
- Food preparation;
- Dishwashing; and
- Cleaning.

### ***Non-Public Areas***

- Employee restrooms;
- Employee lunchroom; and
- Cleaning.

### ***Hotel***

- Hotel rooms
- Laundry; and
- Pool, spa & landscape irrigation.

### ***Grounds Irrigation***

- Shrubs and trees.

## **2.1 Water Use Estimate Results**

It is estimated that the Project will require approximately 27,000 gallons per average day, with a peak day water use of approximately 43,000 gallons. Water use by category and wastewater generation is shown in Table 2-1. The water use estimate reflects a Project that is reasonably efficient and incorporates efficient water fixtures and water saving policies.

The casino category is based on the occupancy of the casino floor and is for restroom water use associated with occupied slots and gaming tables. The food



and beverage estimate is based on facility restaurants and includes food preparation, washing, cleaning, as well as drinking water.

Hotel water use includes in-room water use as well as laundry, and pool, spa, and landscape irrigation. The hotel is assumed to have landscape irrigation in addition to that of the facility in general.

The landscape irrigation water estimate is based on a minimal area of irrigation relative to facility size. All water used, except landscape irrigation and hotel pool/spa, is assumed to become wastewater.

**Table 2-1 Estimated Water Use**

<b>CATEGORY</b>	<b>PEAK Day (gal)</b>	<b>AVERAGE Day (gal)</b>
Casino	11,536	6,719
Food & Beverage	12,300	7,286
Hotel -Rooms	11,250	5,625
Hotel -Laundry	2,109	1,055
Hotel -Pool, Spa, Landscaping	3,164	3,164
Employees	425	334
Landscape irrigation	2,246	2,246
<b>Total Water Use</b>	<b>43,031</b>	<b>26,428</b>
<b>Wastewater Generation</b>	<b>37,620</b>	<b>21,018</b>

**2.2 Water Use Estimate Methodology**

This section describes the methodology used in estimating Project water use. A detailed water use and wastewater generation table is presented in Appendix A. Discussion of the wastewater generation estimate is included in Section 3.

As compared to other commercial facilities, casinos have unique occupancy and water use patterns. The facility will be open twenty four hours per day, seven days per week and occupancy is expected to vary greatly between AM and PM and between weekdays and weekends. Peak occupancy is expected to occur on weekend evenings.

The water use estimate is based on per seat, per room, or per person usage. Typical weekday flows, typical weekend day flows, and peak day design flows are based on approximate percentage of maximum occupancy numbers. Each daily flow calculation is based on separating anticipated occupancy into morning (AM) and evening (PM) segments. Results are presented in terms of average day flows which are based on factoring typical weekday and weekend day flows (Table 2-1).

In estimating water use, the Project is separated by use into the following categories: casino (slots and tables), dining, hotel, employees, and landscape irrigation. Generally, water use is estimated in terms of usage per seat.

### **2.2.1 Casino Slots and Tables**

For slots and tables, at maximum occupancy, a given seat is assumed to be occupied for a period of two hours per customer allowing for 12 customers per seat in a 24-hour period. It is assumed that each slot will have a single seat and each of the 20 gaming tables will have 6 seats. Each customer is assumed to use the restroom once with an average water use of approximately 1.5 gallons. Restroom use is based on 50-percent male use and 50-percent female use. Toilets are assumed to be standard 1.6 gallon per flush models and urinals are assumed to be waterless models. A customer restroom water use estimate calculation sheet is included in Appendix A. Typical restroom water use values are taken from the *Handbook of Water Use and Conservation* by Amy Vickers.

### **2.2.2 Food and Beverage**

Customer dining is assumed to accommodate 6 customers per seat in a 24-hour period. The employee dining room use is based on one-lunch break per employee per day.

Restaurant water use can be difficult to predict and is typically highly dependent on type and number of kitchen appliances and fixtures utilized. The Water Research Foundation funded a study titled, *Commercial and Institutional End Uses of Water*, with the purpose of developing a set of efficiency benchmarks. The study involved seven utilities in California and Arizona with data from 433 establishments. Efficiency benchmarks suggest that a reasonably efficient restaurant would use 6 to 9 gallons of water per meal served. Based on this research, water use at the proposed facility is assumed to be 8 gallons per meal served.

There are a variety of ways to examine restaurant water use data. The study also presents efficiency benchmarks in terms of gallons per seat per day and in terms of gallons per square foot per year. Table 2-2 provides a comparison of the proposed facility water use estimate to the efficiency benchmark range for each of the three different approaches.

**Table 2-2 Restaurant Water Use Estimate vs. Efficiency Benchmarks**

<b>Approach</b>	<b>Efficiency Benchmark Range</b>	<b>Restaurant Estimate Value</b>
<b>Gallons/meal served</b>	<b>6-9</b>	<b>8</b>
Gallons/seat/day	20-31	28
Gallons/square foot/year	130-331	576

The restaurant water use estimate is within the efficiency benchmark range in terms of gallons/meal served and in terms of gallons per seat per day. In terms of gallons per square foot per year, the estimated restaurant water use is considerably higher than a typical reasonably efficient restaurant. Due to the nature of the facility and 24-hour operation, the amount of meals served per square foot is expected to be relatively high. Water use, expressed in terms of meals (used for

the water use estimate) is expected to be the most representative approach. Water use on a per employee basis was not examined because number of employees specifically allocated to food service was unknown at the time of this evaluation.

### **2.2.3 Hotel**

The hotel water use estimate is based on typical hotel waster use of 60 gallons/guest/day with an average of 1.5 people per occupied room resulting in 90 gallons per day per occupied room. The *Commercial and Institutional End Uses of Water* study provides an efficiency benchmark range of 60-115 gallons per day per occupied room for indoor use.

In order to provide a conservative estimate, hotel laundry use is estimated separately as 10 percent of total hotel usage and is assumed to be dependent on occupancy. Hotel pool, spa, and landscaping water use is estimated as 15 percent of total hotel usage and is assumed to be independent of occupancy. These percentages are based on typical values as presented in the *Water Conservation Toolkit* by the Small Tourism Enterprises Project.

### **2.2.4 Employee**

Employee water use is based on employee restroom use during each shift. Shifts are generally assumed to be 8 hours with a maximum of 12 hours. The most employees on-site are anticipated during evening and weekend peaks.

Employee restroom use is based on three restroom visits per shift with an average water use of approximately 4 gallons. Restroom use is based on 50 percent male use and 50 percent female use. Toilets are assumed to be standard 1.6 gallons per flush models and urinals are assumed to be waterless models. An employee restroom water use estimate calculation sheet is included in Appendix A. Typical restroom water use values are taken from the *Handbook of Water Use and Conservation* by Amy Vickers.

### **2.2.5 Landscape Irrigation**

Irrigation water use assumptions are based on square footage of landscaping. Irrigation estimates are based on the highest demand month (July). During dry summer months, it is anticipated that approximately 3 inches of water per month will be required based on approximate irrigation needs. By limiting grass areas and incorporating drought tolerant landscaping, landscaping water use can be minimized.

### **2.2.6 Cooling**

The cooling system is assumed to consist of air-cooled air conditioning units, without any water use. In order to meet the green goals of the project, water consuming cooling towers will not be used.

### **2.3 Water Supply Infrastructure**

There are five water service providers in the Ukiah Valley. Of these, the City of Ukiah provides water within the city limits only, while the Millview County Water District serves the unincorporated area north of the City of Ukiah including the project site.

The MCWD obtains water from 18 shallow wells along the Russian River as well as a direct intake facility on the Russian River. As of 2001, the treatment plant had a capacity of approximately 3.9 MGD and storage tanks provided approximately 2.2 MGD of storage. At that time, source capacity was approximately 2.6 MGD. A moratorium on new connections has been in place since 2001 because of insufficient source capacity and system storage capacity. While upgrades have been made to system storage capacity, the moratorium remains in effect.

### **2.4 Water Conservation**

The facility water use estimate is based on typical values. Water saving features included in the estimate include zero flow urinals, limited landscaping, and a non-water consuming cooling system. A variety of additional water saving measures will be examined further and incorporated, if feasible, in the final design.

Measures to be examined include:

- High water efficiency restroom fixtures;
- Water efficient commercial kitchen fixtures;
- Re-circulating cooling system;
- Drought tolerant landscaping;
- Greywater landscape irrigation system; and
- Water reuse for toilet flushing.

The following water saving procedures will also be considered:

- No watering : 9am-5pm;
- Irrigation system limit of 15 minutes;
- No excessive water flow or runoff;
- No washing down hard or paved surfaces;
- Obligation to fix any leaks in reasonable time;
- Fountains allowed only with re-circulating water;
- Restaurants only serve water on request; and
- Hotel to provide guests option not to launder linen daily.



With incorporation of water conservation measures listed above, water demand and wastewater production is expected to fall below estimated values presented in Table 2-1. All water use, except for landscape irrigation and hotel pool/spa, is anticipated to become wastewater. Thus, any conservation measures implemented provide a two fold benefit.

## **3.0 PROJECT WASTEWATER GENERATION**

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### **3.1 Wastewater Generation Estimate**

The wastewater generation estimate is based on the water use estimate as described in the previous section. It is assumed that all water use, except landscape irrigation and hotel pool/spa use, will become wastewater. Since only a small portion of water use will be used for landscape irrigation, the wastewater generation estimate is very similar to the water use estimate with total average day flows estimated to be approximately 21,000 gallons, with peak day flows of approximately 38,000 gallons as shown in Table 2-1. The water use and wastewater generation spreadsheet is included in Appendix A.

#### **3.1.1 Equivalent Sewer Service Unit Estimate**

The UVSD accounts for sewer flow in terms of Equivalent Sewer Service Units (ESSU). Ordinance No. 12 establishes average gallons per ESSU based on type of commercial use.

The following uses were included in the ESSU estimate:

- Restaurants and bars - a service unit is defined as 3000 average gallons per month.
- Laundries - a service unit is defined as 5400 average gallons per month.
- Hotels - a service unit is defined as 6600 average gallons per month.

Through the use of ESSUs, the UVSD charges a higher rate per gallon for waste streams that are typically more difficult to treat because of high biochemical oxygen demand (BOD) and high solids content.

An Equivalent Sewer Service Unit Calculation Sheet is included in Appendix A. The estimate is based on the water usage estimate but does not include landscaping and the hotel pool/spa uses that will not drain to sewer. The ESSU cost is calculated based on UVSD Ordinance No. 26 and includes the typical assumption of 50-percent occupancy for the hotel.

### **3.2 Wastewater Infrastructure**

Previously, this site's wastewater was handled by an onsite septic system. Because of the size of the proposed facility, a septic system would no longer be feasible. It is anticipated that wastewater services for the proposed project will be provided by the UVSD.

The UVSD wastewater collection system is administered and operated by the City on behalf of the district. Wastewater is treated at the City owned Wastewater Treatment Plant (WWTP) located at the southern end of Ukiah. The recently expanded WWTP is a trickling filter system with a capacity of 3.01 million gallons

per day (mgd) of dry weather flow and 24.5 mgd of peak wet weather flow (Winzler & Kelly, 2009).

Existing sewer lines are shown on Figure 1 Sanitary Sewer Base Map. In the project area, the main north-south line runs parallel to the railroad tracks, approximately 0.3 miles east of the project site. There is an 8-inch diameter lateral off this line that runs toward the site along Kunzler Ranch Road. This 8-inch diameter lateral has been recently extended across North State Street at the facility entrance, which is not included on Figure 1.

### **3.3 Wastewater Quality**

Casino facilities typically produce wastewater with high biochemical oxygen demand associated with restaurant facilities. These high BOD loadings can necessitate additional treatment effort at the public utility. Elimination of restaurant garbage disposals can greatly reduce the BOD loading. An alternative is to use scrap collectors to accumulate solids into a bin that is then emptied into the garbage. A typical scrap collector significantly reduces both water use and wastewater BOD loading (Energy Star, 2005). Fats, oils and grease can cause blockages and maintenance problems for sanitary sewer systems. Thus, the UVSD has a grease control ordinance that requires commercial businesses such as restaurants to install and maintain a grease trap under a Grease Interceptor Permit.

Project restaurants will incorporate scrap collectors where feasible to reduce wastewater BOD loading. Also, project restaurants will install grease traps in accordance with the UVSD grease control ordinance.

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# ***APPENDIX F***

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***"WILL SERVE" LETTER FROM SERVICE  
PROVIDER***

UKIAH VALLEY SANITATION DISTRICT

RICK KENNEDY  
District Manager/Clerk

387 North State Street, Suite 101  
Ukiah, California 95482  
TELEPHONE AND FAX: (707) 462-4429  
EMAIL ADDRESS: UKIAHVALLEYSID@AVD.NET

WEB SITE  
ukiahvalleysd.com

January 25, 2010

Andy Marton  
Pinoleville Pomo Nation  
801 Lovers Lane  
Ukiah, CA 95482

Re: Conditional Will Serve Letter for 134 ESSUs for the Proposed Casino and Hotel to be Sited on 8.8 Acres Located South of Ackerman Creek and West of North State Street

Dear Mr. Marton:

This is to confirm that the Board of Directors of the Ukiah Valley Sanitation District conditionally approved the allocation of 134 equivalent sewer service units (ESSUs) to the referenced Project on January 21, 2010 in accordance with the District's ESSU Allocation Policy and directed the District Manager to issue a Conditional Will Serve Letter for the Project. This Conditional Will Serve Letter is conditioned on the completion of certain time frames and construction requirements which are as follows:

1. If the Project Plans are to be plan checked by the Planning and Building Department, then the plans are to be submitted to the Department no later than 12 months from January 21, 2010. Deadline is January 21, 2011.
2. The connection fees for the 134 ESSUs (a total of \$1,462,074.00) are to be paid to the District no later than 12 months from January 21, 2010. Deadline is July 21, 2011.
3. Construction of the project must begin no later than 18 months from January 21, 2010. Deadline is July 21, 2011. An extension of 6 months for the start of construction may be granted.
4. The Project owner must install the water saving plumbing fixtures as described in the Water and Wastewater Report prepared by Kennec.
5. The Project owner shall install an in-line manhole or an approved alternative in the downstream segment of the building lateral for flow testing and inspection purposes
6. The District and the City on behalf of the District reserve the right to plan check the final Project Plans to ensure that the water saving units have been incorporated into the Project and to determine the final ESSU allocation
7. The Project Owner will be required to meter water flow from any well which provides domestic water to the Project and the meter must be accessible to the District staff for reading.

BOARD OF DIRECTORS

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January 25, 2010

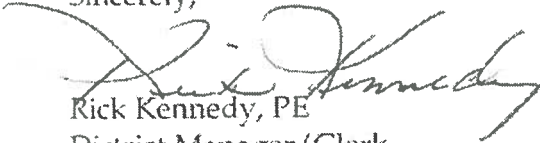
8. The Project Applicant must apply for a sewer lateral permit at the City of Ukiah prior to constructing the lateral and connecting to the public sewer main

If the above time lines are not met, this Conditional Will Serve Letter becomes void and the ESSU allocation may be allocated to another project. If this Conditional Will Serve Letter becomes void, any paid connection fees for the Project will be returned to the remitting party less a \$500.00 processing fee.

The Board may consider an extension of time to the payment of fees if requested by the Project Applicant. However, the Board reserves the right to establish a payment plan for the connection fees.

We wish you success on your Project and we look forward to providing your Project with sewer service.

Sincerely,



Rick Kennedy, PE  
District Manager/Clerk

Cc: Rick Sands, W/S Engineering Specialist, City of Ukiah  
John Tang, e-mailed 1/25/10



# ***APPENDIX G***

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***AIR QUALITY MODEL (URBEMIS) OUTPUT FILES***

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\equinn\Application Data\Urbemis\Version9a\Projects\Pinoleville.urb924

Project Name: Pinoleville - Proposed Project

Project Location: Mountain Counties Air Basin

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1.26	1.64	4.43	0.00	0.01	0.01	1,923.62
TOTALS (lbs/day, mitigated)	1.09	1.31	3.54	0.00	0.01	0.01	1,540.02
Percent Reduction	13.49	20.12	20.09	NaN	0.00	0.00	19.94

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	60.16	68.65	663.81	0.37	64.56	12.58	37,444.76
TOTALS (lbs/day, mitigated)	60.07	68.54	662.70	0.37	64.45	12.56	37,382.36
Percent Reduction	0.15	0.16	0.17	0.00	0.17	0.16	0.17

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	61.42	70.29	668.24	0.37	64.57	12.59	39,368.38
TOTALS (lbs/day, mitigated)	61.16	69.85	666.24	0.37	64.46	12.57	38,922.38
Percent Reduction	0.42	0.63	0.30	0.00	0.17	0.16	1.13

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.12	1.60	1.34	0.00	0.00	0.00	1,918.00
Hearth - No Summer Emissions							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings	0.89						
<b>TOTALS (lbs/day, unmitigated)</b>	<b>1.26</b>	<b>1.64</b>	<b>4.43</b>	<b>0.00</b>	<b>0.01</b>	<b>0.01</b>	<b>1,923.62</b>

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.09	1.28	1.07	0.00	0.00	0.00	1,534.40
Hearth - No Summer Emissions							
Landscape	0.20	0.03	2.47	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings	0.80						
<b>TOTALS (lbs/day, mitigated)</b>	<b>1.09</b>	<b>1.31</b>	<b>3.54</b>	<b>0.00</b>	<b>0.01</b>	<b>0.01</b>	<b>1,540.02</b>

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 100%



Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hotel	6.02	5.37	51.99	0.03	5.14	1.00	2,974.21
Casino	54.14	63.28	611.82	0.34	59.42	11.58	34,470.55
<b>TOTALS (lbs/day, unmitigated)</b>	<b>60.16</b>	<b>68.65</b>	<b>663.81</b>	<b>0.37</b>	<b>64.56</b>	<b>12.58</b>	<b>37,444.76</b>

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hotel	6.02	5.36	51.90	0.03	5.13	1.00	2,969.26
Casino	54.05	63.18	610.80	0.34	59.32	11.56	34,413.10
<b>TOTALS (lbs/day, mitigated)</b>	<b>60.07</b>	<b>68.54</b>	<b>662.70</b>	<b>0.37</b>	<b>64.45</b>	<b>12.56</b>	<b>37,382.36</b>

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acres	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hotel	3.19	rooms	125.00	398.75	2,973.68	
Casino	60.83	1000 sq ft	89.75	5,459.49	34,368.27	
				5,858.24	37,341.95	

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	32.5	1.8	97.6	0.6
Light Truck < 3750 lbs	24.5	3.7	87.3	9.0
Light Truck 3751-5750 lbs	19.7	1.5	98.0	0.5
Med Truck 5751-8500 lbs	9.2	1.1	97.8	1.1
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	68.0	32.0
Lite-Heavy Truck 10,001-14,000 lbs	1.2	0.0	41.7	58.3
Med-Heavy Truck 14,001-33,000 lbs	0.9	11.1	22.2	66.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	6.4	62.5	37.5	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	2.0	5.0	80.0	15.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			

Travel Conditions

	Residential				Commercial	
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
% of Trips - Commercial (by land use)						
Hotel				5.0	2.5	92.5
Casino				2.0	1.0	97.0

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\equinn\Application Data\Urbemis\Version9a\Projects\Pinoleville.urb924

Project Name: Pinoleville - Proposed Project

Project Location: Mountain Counties Air Basin

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007



AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1.01	1.60	1.34	0.00	0.00	0.00	1,918.00
TOTALS (lbs/day, mitigated)	0.89	1.28	1.07	0.00	0.00	0.00	1,534.40
Percent Reduction	11.88	20.00	20.15	NaN	NaN	NaN	20.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	74.27	102.88	780.73	0.34	64.56	12.58	32,945.55
TOTALS (lbs/day, mitigated)	74.15	102.71	779.43	0.34	64.45	12.56	32,890.64
Percent Reduction	0.16	0.17	0.17	0.00	0.17	0.16	0.17

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	75.28	104.48	782.07	0.34	64.56	12.58	34,863.55
TOTALS (lbs/day, mitigated)	75.04	103.99	780.50	0.34	64.45	12.56	34,425.04
Percent Reduction	0.32	0.47	0.20	0.00	0.17	0.16	1.26

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.12	1.60	1.34	0.00	0.00	0.00	1,918.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.89						
TOTALS (lbs/day, unmitigated)	1.01	1.60	1.34	0.00	0.00	0.00	1,918.00

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.09	1.28	1.07	0.00	0.00	0.00	1,534.40
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.80						
TOTALS (lbs/day, mitigated)	0.89	1.28	1.07	0.00	0.00	0.00	1,534.40

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hotel	5.47	8.06	60.14	0.03	5.14	1.00	2,615.92
Casino	68.80	94.82	720.59	0.31	59.42	11.58	30,329.63
TOTALS (lbs/day, unmitigated)	74.27	102.88	780.73	0.34	64.56	12.58	32,945.55

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hotel	5.46	8.05	60.04	0.03	5.13	1.00	2,611.56
Casino	68.69	94.66	719.39	0.31	59.32	11.56	30,279.08
TOTALS (lbs/day, mitigated)	74.15	102.71	779.43	0.34	64.45	12.56	32,890.64

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acres	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hotel	3.19	rooms	125.00	398.75	2,973.68	
Casino	60.83	1000 sq ft	89.75	5,459.49	34,368.27	
				5,858.24	37,341.95	

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	32.5	1.8	97.6	0.6
Light Truck < 3750 lbs	24.5	3.7	87.3	9.0
Light Truck 3751-5750 lbs	19.7	1.5	98.0	0.5
Med Truck 5751-8500 lbs	9.2	1.1	97.8	1.1
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	68.0	32.0
Lite-Heavy Truck 10,001-14,000 lbs	1.2	0.0	41.7	58.3
Med-Heavy Truck 14,001-33,000 lbs	0.9	11.1	22.2	66.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	6.4	62.5	37.5	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	2.0	5.0	80.0	15.0

Travel Conditions

	Residential				Commercial	
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			



Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
% of Trips - Commercial (by land use)						
Hotel				5.0	2.5	92.5
Casino				2.0	1.0	97.0

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\equinn\Application Data\Urbemis\Version9a\Projects\Penoleville\Pinoleville Reduced Alt.urb924

Project Name: Pinoleville - Reduced Alternative

Project Location: Mountain Counties Air Basin

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.22	0.13	1.64	0.00	0.01	0.01	130.81

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	9.65	11.28	109.07	0.06	10.59	2.06	6,145.17

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	9.87	11.41	110.71	0.06	10.60	2.07	6,275.98

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.01	0.11	0.09	0.00	0.00	0.00	128.00
Hearth - No Summer Emissions							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	0.00						
Architectural Coatings	0.09						
TOTALS (lbs/day, unmitigated)	0.22	0.13	1.64	0.00	0.01	0.01	130.81

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.01	0.09	0.07	0.00	0.00	0.00	102.40
Hearth - No Summer Emissions							
Landscape	0.10	0.02	1.24	0.00	0.00	0.00	2.81
Consumer Products	0.00						
Architectural Coatings	0.08						
TOTALS (lbs/day, mitigated)	0.19	0.11	1.31	0.00	0.00	0.00	105.21

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Casino	9.65	11.28	109.07	0.06	10.59	2.06	6,145.17
TOTALS (lbs/day, unmitigated)	9.65	11.28	109.07	0.06	10.59	2.06	6,145.17

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Casino	0.23	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS (lbs/day, mitigated)	0.23	0.00	0.00	0.00	0.00	0.00	0.00

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 85 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Casino	60.83	1000 sq ft	16.00	973.28	6,126.93	
<u>Vehicle Fleet Mix</u>						
Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel		
Light Auto	32.5	1.8	97.6	0.6		



Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Truck < 3750 lbs	24.5	3.7	87.3	9.0
Light Truck 3751-5750 lbs	19.7	1.5	98.0	0.5
Med Truck 5751-8500 lbs	9.2	1.1	97.8	1.1
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	68.0	32.0
Lite-Heavy Truck 10,001-14,000 lbs	1.2	0.0	41.7	58.3
Med-Heavy Truck 14,001-33,000 lbs	0.9	11.1	22.2	66.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	6.4	62.5	37.5	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	2.0	5.0	80.0	15.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			

% of Trips - Commercial (by land use)



Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\equinn\Application Data\Urbemis\Version9a\Projects\Penoleville\Pinoleville Reduced Alt.urb924

Project Name: Pinoleville - Reduced Alternative

Project Location: Mountain Counties Air Basin

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.10	0.11	0.09	0.00	0.00	0.00	128.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	12.27	16.90	128.46	0.05	10.59	2.06	5,406.95

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	12.37	17.01	128.55	0.05	10.59	2.06	5,534.95

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.01	0.11	0.09	0.00	0.00	0.00	128.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.09						
TOTALS (lbs/day, unmitigated)	0.10	0.11	0.09	0.00	0.00	0.00	128.00

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.01	0.09	0.07	0.00	0.00	0.00	102.40
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.08						
TOTALS (lbs/day, mitigated)	0.09	0.09	0.07	0.00	0.00	0.00	102.40

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 100%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25	CO2
Casino	12.27	16.90	128.46	0.05	10.59	2.06	5,406.95
TOTALS (lbs/day, unmitigated)	12.27	16.90	128.46	0.05	10.59	2.06	5,406.95

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25	CO2
Casino	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS (lbs/day, mitigated)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Casino	60.83	1000 sq ft	16.00	973.28	6,126.93	
				973.28	6,126.93	

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	32.5	1.8	97.6	0.6



Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Truck < 3750 lbs	24.5	3.7	87.3	9.0
Light Truck 3751-5750 lbs	19.7	1.5	98.0	0.5
Med Truck 5751-8500 lbs	9.2	1.1	97.8	1.1
Lite-Heavy Truck 8501-10,000 lbs	2.5	0.0	68.0	32.0
Lite-Heavy Truck 10,001-14,000 lbs	1.2	0.0	41.7	58.3
Med-Heavy Truck 14,001-33,000 lbs	0.9	11.1	22.2	66.7
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	6.4	62.5	37.5	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	2.0	5.0	80.0	15.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	27.3	21.2	51.5			

% of Trips - Commercial (by land use)

<u>Travel Conditions</u>				
Residential	Commercial	Commuter	Non-Work	Customer
Home-Work	Home-Other	2.0	1.0	97.0
Home-Shop				

Casino