

FINAL TRIBAL ENVIRONMENTAL IMPACT REPORT

ENTERPRISE RANCHERIA
FIRE MOUNTAIN CASINO MUSIC VENUE PROJECT

VOLUME I - RESPONSE TO COMMENTS

JUNE 2021

PREPARED FOR:

Enterprise Rancheria
1940 Feather River Blvd. #B
Oroville, CA 95965

PREPARED BY:

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TABLE OF CONTENTS

1.0 INTRODUCTION 1-1

1.1 TRIBAL ENVIRONMENTAL IMPACT REPORT PROCESS 1-1
1.2 METHOD OF ORGANIZATION 1-1

2.0 REVISIONS TO THE DRAFT TEIR 2-1

3.0 AGENCIES, ORGANIZATIONS, AND INDIVIDUALS COMMENTING ON THE DRAFT TEIR 3-1

4.0 WRITTEN COMMENTS ON THE DRAFT TEIR AND RESPONSES TO COMMENTS 4-1

4.1 INTRODUCTION 4-1
4.2 RESPONSES TO COMMENTS 4-1
4.2.1 Master Responses to Comments 4-1
4.2.2 Responses to Agency, Organization, and Individual Comments 4-4
Comment Letter A1 4-5
Comment Letter A2 4-8
Comment Letter A3 4-13
Comment Letter A4 4-15
Comment Letter A5 4-17
Comment Letter A6 4-19
Comment Letter O1 4-21
Comment Letter F1 4-23
Comment Letter F2 4-27
Comment Letter I1 4-30
Comment Letter I2 4-36
Comment Letter I3 4-38
Comment Letter I4 4-40

5.0 MITIGATION, MONITORING, AND REPORTING PROGRAM 5-1

5.1 INTRODUCTION 5-1
5.2 FORMAT 5-1
5.3 ENFORCEMENT 5-2

LIST OF TABLES

Table 3-1 Agencies, Organizations, and Individuals Commenting on the Draft TEIR 3-1
Table 5-1 Mitigation, Monitoring, and Reporting Program 5-3

LIST OF ATTACHMENTS

Attachment 1 Revised Traffic Memo (Appendix D of the Final TEIR)

SECTION 1.0

INTRODUCTION

1.0 INTRODUCTION

1.1 TRIBAL ENVIRONMENTAL IMPACT REPORT PROCESS

On March 10, 2021, the Estom Yumeka Maidu Tribe of the Enterprise Rancheria (Tribe; Lead Agency) released for public review a Draft Tribal Environmental Impact Report (TEIR) for the proposed Fire Mountain Casino Music Venue Project (Proposed Project) (State Clearinghouse # 2020120445). The public review and comment period on the Draft TEIR began on March 10, 2021 and closed on April 26, 2021.

The Draft TEIR together with this Response to Comments document constitutes the Final TEIR for the Proposed Project, pursuant to the Secretarial Procedures for the Estom Yumeka Maidu Tribe of the Enterprise Rancheria (Procedures). The Final TEIR is an informational document prepared by the Tribe that must be considered by decision-makers before approving the Proposed Project and that must reflect the Tribe's independent judgment and analysis of the anticipated potentially significant off-reservation environmental impacts of the Proposed Project (Procedures, Section 11). The Procedures (Section 11.4) specify the following:

A Final TEIR shall consist of:

(a) The Draft TEIR or a revision of the draft;
(b) Comments and recommendations received on the Draft TEIR either verbatim or in summary;
(c) A list of persons, organizations, and public agencies commenting on the Draft TEIR.
(d) The responses, which shall include good faith, reasoned analyses, of the Tribe to significant environmental points raised in the review and consultation process; and
(e) Any other information added by the Tribe.

This Response to Comments document has been prepared pursuant to the Procedures. This document incorporates comments from public agencies and the general public, and contains appropriate responses by the Tribe to those comments. The Final TEIR reflects the Tribe's independent judgment and analysis.

1.2 METHOD OF ORGANIZATION

This Response to Comments document for the Proposed Project contains information in response to comments raised during the public comment period.

This section, *Introduction*, describes the TEIR process and the organization of this Response to Comments document.

Section 2, *Revisions to the Draft TEIR*, contains text changes to the Draft TEIR made in response to comments received on the Draft TEIR.

Section 3, *Agencies, Organizations, and Individuals Commenting on the Draft TEIR*, lists all agencies, organizations, and persons that submitted written comments on the Draft TEIR during the public review and comment period.

Section 4, *Written Comments on the Draft TEIR and Responses to Comments*, contains comment letters received during the public review and comment period. The responses to the comments are provided following each letter.

Section 5, *Mitigation, Monitoring, and Reporting Program*, describes the identified mitigation measures and the responsible parties, tasks, and schedule for monitoring and reporting compliance.

SECTION 2.0

REVISIONS TO THE DRAFT TEIR

2.0 REVISIONS TO THE DRAFT TEIR

This section presents revisions to the text and appendices of the Draft Tribal Environmental Impact Report (TEIR) made in response to comments on the Draft TEIR included in Section 4.0 of this Response to Comments document. None of the revisions or corrections substantially change the analysis and conclusions presented in the Draft TEIR.

The following includes all revisions to the Draft TEIR in the order in which they appear in the document. Multiple text changes to the same TEIR paragraphs are compiled and shown together. Revised or new language is underlined. Deleted language is indicated by ~~strikethrough text~~.

Draft TEIR Section 2.3, page 2-2, was revised in response to comments as follows:

> The main Resort building consists of approximately 305,605 sf, which includes up to 1,600 gaming devices, table games, five dining locations, a 170-room hotel, other entertainment amenities, and associated parking. Additional facilities are also located on the Project Site, including an on-site water treatment facility and a wastewater treatment plant, all of which are owned and operated by the Tribe. A separate project, anticipated to be operational prior to opening day of the Proposed Project, includes on on-site mini-mart and gas station; this separate project will be referred to herein as the "Gas Station Project." The Resort currently employs approximately 1,106 employees and is managed by Hard Rock Entertainment for the Tribe.
>
> The Resort currently coordinates and supports CHP, Yuba County Sheriff officers, and the Toyota Amphitheater in the implementation of the amphitheater's traffic management plan during events, including providing Resort personnel to manually control traffic on Forty Mile Rd at the Resort entrances to facilitate ingress and egress of Resort visitors. Additionally, the Tribe currently contributes towards the amphitheater's payments for additional CHP and Yuba County Sheriff services during events.

Draft TEIR Section 3.3, page 3.3-15, was revised in response to comments as follows:

> Operational emissions were estimated for the buildout year of 2022. **Table 3.3-5** presents the unmitigated operational emissions associated with the Proposed Project as quantified in **Appendix F**. Unmitigated Proposed Project emissions would be less than the FRAQMD thresholds for ROG, NO_x, and PM_{10}. Use of unpaved overflow parking areas may result in additional fugitive dust emissions during operation of the Proposed Project. **Mitigation Measure 3.3-2** would be implemented during operation to reduce fugitive dust emissions from unpaved parking areas. Therefore, implementation of the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan, violate an air quality standard, or

contribute to the existing or projected air quality violation. Operational emissions under the Proposed Project would be less than significant.

Draft TEIR Section 3.3, page 3.3-18, was revised in response to comments as follows:

3.3-2 Signs limiting traffic speeds in the unpaved parking lot to no more than 15 miles per hour will be strategically placed at the entrance to and throughout the unpaved parking lot. Additionally, on the days that the unpaved overflow parking lots are used for employee and/or visitor parking, the Tribe shall spray exposed parking areas with water or dust suppressants as needed.

Draft TEIR Section 3.11, page 3.11-17, was revised in response to comments as follows:

Forty Mile Rd at NB SR-65 Ramps

The intersection of Forty Mile Rd at NB SR-65 Ramps operates sub standardly under Opening Year (2021) Conditions and the addition of the Proposed Project adds traffic to this deficient condition. This impact can be mitigated with the addition of All Way Stop Control (AWSC). The operations resulting from this mitigation are summarized in Table 13 of **Appendix D**. It is important to note that this intersection's operating conditions are consistent with the 2010 FEIS. Because this intersection operates at substandard levels without the Proposed Project, the Proposed Project should contribute its proportionate share toward future improvements determined by an Intersection Control Evaluation (ICE) to be completed ~~the construction of these improvements~~.

McGowan Parkway at NB SR-70 Ramps

The intersection of McGowan Parkway at NB SR-70 Ramps operates sub standardly under Existing (2020) Conditions and the addition of the Proposed Project adds traffic to this deficient condition. However, the additional traffic produced from Proposed Project does not result in the peak-hour signal warrant being satisfied (**Appendix B**, Attachment C). This impact can be mitigated with the addition of traffic signal control. The operations resulting from this mitigation are summarized in Table 13 of **Appendix D**. It is important to note that this intersection's operating conditions are consistent with the 2010 FEIS. Because this intersection operates at substandard levels without the Proposed Project, the Proposed Project should contribute its proportionate share toward future improvements determined by an ICE to be completed ~~the construction of these improvements~~.

Draft TEIR Section 3.11, page 3.11-18, was revised in response to comments as follows:

SR-65 at South Beale Road

The intersection of SR-65 at South Beale Road operates sub standardly under Existing (2020) Conditions and the addition of the Proposed Project adds traffic to this deficient condition. However, the additional traffic produced from Proposed Project does not result in the peak-hour signal warrant being satisfied (**Appendix B**, Attachment C). This impact can be mitigated with the addition of traffic signal control. The operations resulting from this mitigation are summarized in Table 13 of **Appendix D**. Because this intersection operates at substandard levels without the Proposed Project, the Proposed Project should contribute its proportionate share

toward ~~the construction of these improvements~~ future improvements determined by an Intersection Control Evaluation (ICE) to be completed.

Draft TEIR Section 3.11.3, page 3.11-20, was revised in response to comments as follows:

The Proposed Project would not introduce factors that would generate new or unanticipated long-term changes in traffic. Construction impacts to traffic are negligible and temporary, and construction staging would occur on-site. As noted above, implementation of the Proposed Project would not result in unacceptable operations at intersections and roadway segments in the study area. Additionally, as described in Section 2.3, the ~~Tribe~~ Resort currently coordinates and supports CHP, Yuba County Sheriff officers, and the Toyota Amphitheater in the implementation of the amphitheater's traffic management plan during events, including providing Resort personnel to manually control traffic on Forty Mile Rd at the Resort entrances to facilitate ingress and egress of Resort visitors. Additionally, the Tribe currently contributes towards the amphitheater's payments for additional CHP and Yuba County Sheriff services during events. The Tribe's coordination during events at the amphitheater would not only continue after implementation of the Proposed Project, but would also be conducted during events at the proposed live music venue. Therefore, ~~neighboring amphitheater staff to ensure the facilitation of traffic along Forty Mile Rd during events. I~~implementation of the Proposed Project would not significantly impact emergency response or evacuation routes in the vicinity of the Project Site. There would be a less-than-significant impact.

Draft TEIR Section 3.11.4, page 3.11-21, was revised in response to comments as follows:

3.11-1 Intersection Improvements

a. **Forty Mile Rd at NB SR-65 Ramps**: Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards ~~the addition of AWSC~~ future improvements at this intersection as determined by an Intersection Control Evaluation (ICE).
b. **McGowan Parkway at NB SR-70 Ramps**: Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards future improvements ~~the addition of traffic signal control~~ at this intersection as determined by an Intersection Control Evaluation (ICE).
c. **SR-65 at Main Street**: Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards improvements throughout Wheatland, including the Wheatland Bypass.
d. **SR-65 at South Beale Road**: The Tribe shall contribute its proportionate share towards future improvements ~~the addition of traffic signal control~~ at this intersection as determined by an Intersection Control Evaluation (ICE).

Draft TEIR Appendix D, the Traffic Memorandum, was revised on the following items in response to comments, and is included as **Attachment 1** to this Response to Comments document:

In **Response to Comment A2-05**, a queuing analysis was performed for McGowan Parkway at NB SR-70 Ramps. The queuing analysis concludes that implementation of the Proposed Project would not add more than one vehicle length to the queue lengths at this intersection.

In **Response to Comment A2-07**, a queuing analysis was performed for Forty Mile Rd at NB SR-65 Ramps and McGowan Parkway at NB SR-70 Ramps. The queuing analysis concludes that implementation of the Proposed Project would not add more than one vehicle length to the queue lengths at this intersection.

In **Response to Comment A2-09** and **A2-10**, the correct weekday and weekend scenarios in the traffic signal analysis.

SECTION 3.0

AGENCIES, ORGANIZATIONS, AND INDIVIDUALS COMMENTING ON THE DRAFT TEIR

3.0 AGENCIES, ORGANIZATIONS, AND INDIVIDUALS COMMENTING ON THE DRAFT TEIR

This section documents the comments on the Draft Tribal Environmental Impact Report (TEIR) that were submitted by agencies, organizations, and individuals during the public review period. In total, 38 letters were received by letter or email. Copies of the comment letters and the responses to those comments are presented in **Section 4.0** of this Response to Comments document.

The comment letters received on the Draft TEIR are grouped and numbered in **Table 3-1**. Two "Form" letters (identical letters but sent by multiple individuals) were submitted. These are identified as F1 and F2 in **Table 3-1**, along with the name of the individuals who submitted those form letters.

TABLE 3-1. AGENCIES, ORGANIZATIONS, AND INDIVIDUALS COMMENTING ON THE DRAFT TEIR

Comment Letter	Author
Agencies	
A1	County of Yuba
A2	California Department of Transportation (Caltrans)
A3	Feather River Air Quality Management District (FRAQMD)
A4	City of Wheatland
A5	County of Yuba
A6	FRAQMD
Organizations	
O1	South Sutter Community Neighborhood Watch
Form Letters	
Form Letter 1	
F1	Bruno Vargas and Aurora Vargas
F1	Five illegible signatures
F1	One illegible signature
Form Letter 2	
F2	Two illegible signatures
F2	Tony Sandoval, Linda Sandoval, and one illegible signature
F2	One illegible signature
F2	June W. Miller and one illegible signature
F2	Hannah O'Connell
F2	One illegible signature
F2	B. Rosser, Robert Garcia, Linda Rosser, Carol Crowder, MaryAnn Morrison, and three illegible signatures
F2	One illegible signature

Comment Letter	Author
F2	Brenden O'Hagan
F2	Suzanne Bosworth
F2	One illegible signature
F2	One illegible signature
F2	Mark Mojas
F2	John Belza and Virginia Belza
F2	Ben Frerichs
F2	David Gibb and Rebecca Gibb
F2	Two illegible signatures
F2	William Connolly and Sandra Connolly
F2	Patricia Rice
F2	Wanda Horn and Willis Horn
F2	Rebecca McCray and Michael McCray
F2	Carolyn A. McCray and Elbert McCray
F2	One illegible signature
F2	Casey Vogt and one illegible signature
Individuals	
I1	Tim Kelleher, Attorney at Law
I2	Grady Miller
I3	Laurie Norene and Gerald Norene
I4	Sandra Gilbert

SECTION 4.0

WRITTEN COMMENTS ON THE DRAFT TEIR AND RESPONSES TO COMMENTS

4.0 WRITTEN COMMENTS ON THE DRAFT TEIR AND RESPONSES TO COMMENTS

4.1 INTRODUCTION

This section presents responses to issues raised in comments received on the Draft Tribal Environmental Impact Report (TEIR) during the review period related to environmental effects of the Fire Mountain Casino Music Venue Project (Proposed Project). The Secretarial Procedures for the Estom Yumeka Maidu Tribe of the Enterprise Rancheria (Procedures; Section 11.4) require that a Final TEIR should address significant environmental points raised in comments on a Draft TEIR. Comments that state opinions about the overall merit of the Proposed Project are included in the Tribe's public record and will be taken into account by decision-makers (Tribal Council) when they consider the Proposed Project, and although not required by the Procedures, are responded to generally in this Response to Comments document.

4.2 RESPONSES TO COMMENTS

Copies of the comment letters received during the public review period on the Draft TEIR and the individual responses to those comments are provided below. Each written comment letter is designated with a number in the upper right-hand corner of the letter based on the source of the comment (Agency, Organization, or Individual) and the order in which they were received. Additionally, two "Form" letters (identical letters but sent by multiple individuals) were submitted. As the submittals of the respective Form letters were identical, responses to these letters are only provided once.

Within each written comment letter, individual comments are bracketed and labeled with a number in the margin. Immediately following each comment letter is an individual response to each numbered comment. Where responses have resulted in changes to the Draft TEIR, these changes appear in **Section 2.0** of this Response to Comments document.

4.2.1 MASTER RESPONSES TO COMMENTS

Master responses in this section address comments that were submitted multiple times in separate comments. Responses to separate comments may refer to these master responses in whole or in part to avoid repetition. Master responses include:

1. **Master Response on Impacts to Transportation**
2. **Master Response on Impacts to Public Services**
3. **Master Response Regarding Litter on Local Roadways**

1. Master Response on Impacts to Transportation

Summary of Comments: Several commenters have expressed concern regarding transportation-related issues, including the adequacy of mitigation measures and feasibility of alternative entrances to the Project Site.

Response: In both the County of Yuba's and City of Wheatland's General Plans there is planned residential and commercial growth. This planned growth will generate additional vehicle traffic and both General Plans identify the need to expand roads to accommodate the additional vehicle trips. While there are numerous roads identified for expansion in the respective General Plans, there are a few key transportation improvement projects that are of a magnitude of both importance to improving traffic circulation and scale that they are necessary to the successful growth in both the County of Yuba and the City. The County of Yuba and the City of Wheatland recognize this as well as recognize that there are benefits to both entities working jointly to implement these key projects.[1]

Specifically, the key projects being contemplated are four projects that will more than likely be physically connected to one another and address traffic flow through the State Route 65 (SR-65) corridor and connectivity between SR-65 and State Route 70 (SR-70). They are the Plumas Lake Boulevard Extension and SR-70 SB Loop On-Ramp Project, the South Beale Road and State Route 99 (SR-99) Interchange Project, the East Wheatland Expressway Project (also referred to as the Wheatland Bypass), and the SR-65 Realignment.

The County of Yuba and the City of Wheatland have entered into a Joint Exercise of Powers Agreement to create the South Yuba Transportation Improvement Authority (SYTIA), a local district with the purpose of assisting in providing improvements to the transportation system located in the southern portion of the County of Yuba. The SYTIA is permitted to provide financing in connection with the acquisition, construction, improvement, and maintenance of public capital improvements, working capital requirements, or insurance programs of members or other local agencies. The SYTIA was created to act as the mechanism for the County of Yuba and the City of Wheatland to work together on the shared projects.

The SYTIA has adopted traffic impact fees that apply to all developers within the jurisdiction of the SYTIA. These transportation fees include fair share contributions toward the above-named infrastructure improvements. The Project Site is within the jurisdiction of the SYTIA and is thus subject to the impact fees.

The Tribe has agreed to the payment of two separate impact fees: a back-fee for the contribution of traffic impacts from the existing Hard Rock Hotel and Casino Sacramento at Fire Mountain (Resort), and a fee for the anticipated contribution of traffic impacts from the Proposed Project. The SYTIA was developed after the construction of the existing Resort. However, the Tribe acknowledges that the existing Resort has had an impact on regional traffic flow, and, upon request by the SYTIA, has agreed to pay a back-fee for such impacts to support future traffic improvements at the above-named intersections and roadways. The 2010 Final Environmental Impact Statement for the Enterprise Rancheria Gaming Facility and Hotel Fee-to-Trust Acquisition (2010 FEIS) which authorized the construction of the existing Resort on Tribal trust land also included mitigation which required the Tribe to pay a fair share toward these projects. The Tribe, through a negotiated intergovernmental mitigation agreement with the County, has agreed to pay the amounts consistent with **Comment Letter A1** as their "fair share" toward these projects both for the Proposed Project and for the existing resort. The monetized amount is based on the standard SYTIA fees pursuant to the Mitigation Fee Act, and these fees will be used towards the road infrastructure improvements at the above-named intersections and

[1] Yuba County, 2021. *South Yuba Transportation Improvement Authority*. Available online at: https://www.yuba.org/departments/community_development/south_yuba_transportation_improvement_authority_(sytia).php. Accessed May 25, 2021.

roadways within County of Yuba. Additionally, the Draft TEIR identified that the Proposed Project could have potential impacts to various intersections within the jurisdiction of the SYTIA, and, upon request from the County on behalf of SYTIA, has committed to the payment of transportation impact fees at four intersections, as described in Mitigation Measure 3.11-1 of the Draft TEIR. Payment of the requested impact fees will be coordinated in accordance with the negotiated intergovernmental mitigation agreement between the Tribe and the County of Yuba representing the SYTIA. These improvements will be implemented conjunctively with the County of Yuba and the City of Wheatland as the need arises.

For the anticipated increases in traffic and their associated impacts (e.g. safety issues) as a result of the Proposed Project, please refer to Section 3.11, Transportation/Traffic, of the Draft TEIR. As described in Section 3.11.3, the anticipated increase in traffic as a result of the Proposed Project would not result in unacceptable operating standards as set forth by the County of Yuba for the roadway segments assessed within the Traffic Memorandum prepared for the Proposed Project (Attachment 1). Additionally, implementation of the Proposed Project would only generate 96 additional trips during peak hours, resulting in a 13 percent increase in existing weekend PM peak-hour traffic generated by the Resort. (Attachment 1). All intersections assessed in the Traffic Memorandum would be at acceptable County of Yuba operating standards with the exception of Forty Mile Rd at NB SR-65 Ramps, McGowan Parkway at NB SR-70 Ramps, SR-65 at Main Street (Wheatland), and SR-65 at South Beale Road. However, Mitigation Measure 3.11-1 would ensure the Tribe would pay fair share costs associated with improvements to bring intersections to acceptable operating standards. Consequently, all intersection impacts would be less than significant with mitigation. The County is also currently planning to upgrade McGowan Avenue between SR-70 and SR-65. The Tribe, in the negotiated intergovernmental mitigation agreement with the County, has also agreed to pay the fair share of this work consistent with the percentage outlined in the 2010 FEIS for the existing Resort.

With regards to farming equipment and the movement of livestock, Impact 3.11-4 of the Draft TEIR specifically examined the potential of the Proposed Project to create/increase traffic related hazards (e.g. farming equipment). The Draft TEIR concluded that the," …Proposed Project would not modify the design of existing roadways and would not include operational features that would impact traffic or increase hazards." Therefore, the Draft TEIR determined the Proposed Project's impact on traffic related hazards to be less than significant relative to current conditions.

Additionally, the Tribe and County of Yuba have agreed to constructing speed bumps and/or traffic control signs in the vicinity of the Project Site. When constructed, the speed bumps and/or traffic control signs could reduce the speed of the vehicles on Forty Mile Rd in the vicinity of the Project Site. Furthermore, if a future signal warrant analysis conducted by the County of Yuba deems it necessary, the Tribe is committed to future improvements including signalizing the main entrance to the Project Site.

2. Master Response on Impacts to Public Services

Summary of Comments: Several commenters have expressed concern about the Proposed Project's impacts to public services including law enforcement, fire protection, emergency medical services, and any other public services to be provided by the County of Yuba

Response: The Tribe does not have jurisdiction to enforce State and local laws off-reservation; this is the responsibility of local law enforcement. The Draft TEIR was prepared pursuant to the Procedures, which require the negotiation of an intergovernmental mitigation agreement which includes provisions for

compensation for increased law enforcement, fire protection, emergency medical services, and any other public services to be provided by the County of Yuba or Special Districts as appropriate. This negotiated intergovernmental mitigation agreement, which is subject to the approval of the governing bodies of the Tribe and the County of Yuba, includes additional support to the Yuba County Sheriff's Department to support increased patrols in the vicinity of the Project Site. Any future incidents of trespassing and other illegal activities should be reported to the proper authorities that have the jurisdiction to enforce State and local laws.

The Tribe currently contracts with Olivehurst Public Utilities District (OPUD) for fire protection and emergency services. The City of Wheatland fire department and the Plumas Brophy fire district are also part of this agreement for the provision of mutual aid fire support as required. This contract includes a fee schedule which includes reimbursement rates for any increases in square footage in order to ensure that new development does not impact the response times for fire and emergency services as well as actual cost reimbursement for some activities as they are used, including emergency medical response. The increases in cost for fire protection and emergency medical services, are addressed in the existing agreements with special districts, including OPUD and Wheatland Fire, etc., under which payments increase as the existing facility is enlarged as is the case with the Proposed Project. Other public services to be provided by the County of Yuba are addressed in the existing agreement with the County of Yuba under which the funds paid to the County of Yuba increase yearly.

3. Master Response Regarding Litter on Local Roadways

Summary of Comments: Several commenters have expressed concern about the Proposed Project's impacts to litter along roadways in the vicinity of the Project Site.

Response: The Resort established a County Road Litter Removal Adoption Agreement between the Resort and the California Highway Adoption Company, often referred to colloquially as an "Adopt-a-Highway" program. The contract includes removal of litter one time per month on a 2.2-mile segment of Forty Mile Rd. west of the SR-65 off-ramp, including 10 feet of accessible shoulder.

4.2.2 RESPONSES TO AGENCY, ORGANIZATION, AND INDIVIDUAL COMMENTS

This section includes copies of comment letters received during the public review period for the Draft TEIR, followed by responses to the comments contained in each letter.

Comment Letter A1

The County of Yuba

Community Development & Services Agency

Michael Lee, Director
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Marysville, California 95901

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FINANCE AND ADMINISTRATION
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April 12, 2021

Enterprise Rancheria
c/o Analytical Environmental Services
1801 7th Street, Ste. 100
Sacramento, CA 95811
Via email: admin@enterpriseteir.com

Subject: Enterprise Rancheria, Fire Mountain Casino Music Venue Project
Comment Letter on Draft Tribal Environmental Impact Report

Thank you for providing an opportunity to comment on the Draft Tribal Environmental Impact Report (TEIR) dated March 2021, for the proposed casino expansion including a music venue and back office space. We understand a fuel station facility is also proposed. The proposed fuel station was not listed in the TEIR, but the traffic analysis and mitigation measures in the TEIR did account for the fuel station and the increase in vehicle trips associated with the fuel station. A1-01

The South Yuba Transportation Improvement Authority (SYTIA) is a Joint Powers Agreement comprised of the County of Yuba and the City of Wheatland. It was created in 2017 to consider, evaluate, construct, and make associated decisions regarding proposed transportation improvements located in the southern portion of the County and within the City limits of Wheatland. A primary mission is to develop, fund, program, and construct transportation infrastructure required to support land development planned and anticipated over the next 30 years in southern Yuba County. More specifically, to address the needed alternate route to Highway 65 (commonly referred to as the Wheatland Bypass), as well as a new interchange in the vicinity of South Beale Road at Highway 65, and a new connector road between South Beale at Highway 65 and Plumas Lake Boulevard at Highway 70. A1-02

Pursuant to the Mitigation Fee Act, a Traffic Impact Fee Nexus Study was performed in conjunction with David Taussig & Associates, and subsequently adopted by the SYTIA Board on June 4, 2019. On August 13, 2019, the SYTIA Board adopted an impact fee program using results of the Traffic Impact Fee Nexus Study. A1-03

One identified mitigation measure in the Casino's EIS and the current draft TEIR for expansion of Casino facilities is to pay fair share improvement costs toward the Wheatland Bypass. Since SYTIA was created for that very purpose, the simplest and easiest way to calculate the Casino's fair share toward the needed infrastructure is to apply the impact fee rates adopted by SYTIA. A1-04

The current impact fee rates for the proposed casino expansion, and for which SYTIA is requesting payment, are as follows:

75,000 s.f music venue @ $1.745/s.f. = $130,875

20,000 s.f. office space @ $1.745/s.f. = $34,900

4,200 s.f. gas station @ $1.745/s.f. = $7,329

Total = $173,104

Additionally, the approved Environmental Impact Statement (EIS) for the original casino listed a "near-term" mitigation measure as "The tribe shall contribute their fair share to the Wheatland by-pass". That mitigation measure for the original casino has not been satisfied to date. To satisfy that obligation, we are recommending payment of the SYTIA fee applicable to the square footage of the original casino/hotel project. More particularly (and subject to confirmation of square footage compared to Table 2-1 from the EIS):

317,885 s.f @ $1.745/s.f. = **$554,709**

A1-04 (Cont.)

Please keep in mind, that in addition to these fees helping mitigate traffic impacts associated with proposed development, other on-site, frontage, and offsite improvements directly related to proposed developments still apply. In other words, this fee does not resolve other traffic related mitigation measures identified in the TEIR or original Casino EIS, which need to be addressed with the jurisdiction operating the impacted facility.

A1-05

Sincerely,

Michael Lee
CDSA Director, Yuba County
On behalf of SYTIA

Response to Comment Letter A1 – County of Yuba

A1-01 As described in Section 2.3 of the Draft TEIR, the separate Gas Station Project does not qualify as a "Project" as defined by the Procedures and, therefore, the preparation of a separate TEIR is not warranted for that project. The commenter is correct that the Gas Station Project was accounted for in the traffic analysis and mitigation measures in Section 3.11 of the Draft TEIR.

A1-02 The commenter's summary of the SYTIA mission and responsibilities is noted. As the commenter does not raise any environmental concerns, no further response is required.

A1-03 The commenter's summary of the preparation of a Traffic Impact Fee Nexus Study and the SYTIA's subsequent adoption of the resulting impact fee program is noted. As the commenter does not raise any environmental concerns, no further response is required.

A1-04 The commenter's description of the SYTIA's requested impact fee payments for the Proposed Project is noted. Refer to **Master Response 1** regarding the payment of traffic impact fees.

A1-05 It is acknowledged that the impact fees described are sufficient for mitigating the impacts to the Wheatland Bypass. All other mitigation measures described in the Draft TEIR still apply and will be fulfilled in accordance with the Mitigation Measure and Reporting Program (MMRP) included in **Section 5**. Refer to **Master Response 1** regarding the payment of traffic impact fees.

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, Governor

DEPARTMENT OF TRANSPORTATION
District 3
703 B Street
MARYSVILLE, CA 95901–5556
PHONE (530) 741-4233
FAX (530) 741-4245
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

April 9, 2021

GTS# 03-YUB-2020-00095

Mr. Creig Marcus
Tribal Administrator
Enterprise Rancheria
c/o Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95811
Email: admin@enterpriseteir.com

Re: Enterprise Rancheria - Fire Mountain Casino Music Venue Project

Dear Mr. Marcus:

Thank you for including the California Department of Transportation (Caltrans) in the Tribal Environmental Impact Report review process for the project referenced above. We review this local development for impacts to the State Highway System (SHS) in keeping with our mission, vision and goals for sustainability, livability, economy, and safety and health while enhancing California's economy and livability.

The proposed project would include construction of an approximately 75,000 sf indoor live music amphitheater and the expansion of the Resort's back of house space by up to approximately 20,000 sf, totaling approximately 95,000 sf of new building space at the northeast (back) side of the existing Resort building located at 3317 Forty Mile Road, Wheatland, CA on federally-owned land held in trust for the Estom Yumeka Maidu Tribe of the Enterprise Rancheria. The following comments are based the TEIR package received.

A2-01

Traffic Operations

Below are the comments from Traffic Operations for the TEIR. The comments are written based off that document.

1) Page 1: There was no mention of manual traffic control during peak hour and events that attracts high traffic. Please incorporate it into the TEIR.

A2-02

2) Page 1: NOTE TO PLANNING COORDINATOR – Assumptions memo for the preparation of the traffic study was not provided to Caltrans as agreed to at the Pre TEIR-Scoping Meeting (2/05/2021). A2-03
3) Page 197: Based on guidance from Chapter 2B: Regulatory Signs, Barricades, and Gates, Section 2B.07: Multi-Way Stop Application of the CA MUTCD an AWSC is likely not warranted at Forty Mile Road @ NB SR-65 Ramps. See additional notes regarding Forty Mile Rd at NB SR-65 Ramps. A2-04
4) Page 197: Provide queuing analysis for McGowan Parkway at NB SR-70 Ramps. A2-05
5) Page 197: Did the applicant intend to write "2010 TEIS" rather than "201 TEIS"? A2-06
6) Page 201: Provide queuing analysis for: Forty Mile Rd at NB SR-65 Ramps and McGowan Parkway at NB SR-70 Ramps. A2-07
7) An intersection control evaluation has not been prepared at the locations listed below. Consequently, specific improvements have not been identified. For this reason, the mitigation language should be revised accordingly. See suggested language below: A2-08
    a. Page 272: Item #5 (Forty Mile Road @ NB SR-65 Ramps): have a proportionate share contribution towards future improvements at the Forty Mile Road @ NB SR-65 Ramps.
    b. Page 272: Item #9 (McGowan Parkway @ NB SR-70 Ramps): have a proportionate share contribution towards future improvements at the McGowan Parkway @ NB SR-70 Ramps.
    c. Page 272: Item #12 (SR-65 @ South Beale Road): have a proportionate share contribution towards future improvements at the South Beale Road.
8) Page 416: There are two Weekdays stated in the Scenario box. Was one scenario meant to be the Weekend? A2-9
9) Page 417: There are two Weekdays stated in the Scenario box. Was one scenario meant to be the Weekend? A2-10

Traffic Safety

The primary concern is that there is not a collision pattern at SR 65 and 40-Mile Road. A 3-year Table B was run and there were no collisions on record. A2-11

Encroachment Permit

Any project along or within the State's ROW requires an encroachment permit issued by Caltrans. To apply, a completed encroachment permit application, environmental documentation, and five sets of plans clearly indicating State ROW must be submitted to:

A2-12

Hikmat Bsaibess
California Department of Transportation
District 3, Office of Permits
703 B Street
Marysville, CA 95901

Please provide our office with copies of any further actions regarding this project. We would appreciate the opportunity to review and comment on any changes related to this development.

A2-13

If you have any question regarding these comments or require additional information, please contact Deborah McKee, Intergovernmental Review Coordinator for Yuba County, by phone (530) 741-5455 or via email at deborah.mckee@dot.ca.gov.

Sincerely,

GARY ARNOLD, Branch Chief
Office of Transportation Planning
Regional Planning Branch—North

Response to Comment Letter A2 – California Department of Transportation

A2-01 The commenter's summary of the California Department of Transportation's (Caltrans) mission and responsibilities is noted. The commenter's summary of the Proposed Project is consistent with the description provided in the Draft TEIR. As the commenter does not raise any environmental concerns, no further response is required.

A2-02 As described on page 3.11-20 of the Draft TEIR, during operation of the Proposed Project the Tribe will continue to coordinate with the California Highway Patrol (CHP), the Yuba County Sheriff, and neighboring amphitheater staff to ensure the facilitation of traffic along Forty Mile Rd during events, including the implementation of manual traffic controls during simultaneously occurring events. Sections 2.3 and 3.11.3 of the Final TEIR have been revised to clarify that manual traffic control currently is and would continue to be utilized as part of the traffic control during events. Refer to **Section 2.0** of this Response to Comments document for a description of these revisions.

A2-03 As requested, the Traffic Evaluation Scoping Memorandum prepared in response to the coordination call held on February 5, 2021 was provided to Deborah McKee (Caltrans Intergovernmental Review Coordinator for County of Yuba) on April 13, 2021. As the commenter does not raise any environmental concerns, no further response is required.

A2-04 Comment noted. Mitigation Measure 3.11-1(a) has been revised to indicate that the Tribe will contribute a proportionate share towards future improvements at this intersection as determined by an Intersection Control Evaluation (ICE). Refer to **Section 2.0** of this Response to Comments document for a description of this revision. This mitigation measure is included in the MMRP included as **Section 5.0**.

Please refer to the **Response to Comment A2-07** for information regarding analysis of Forty Mile Rd at northbound (NB) SR-65 Ramps.

A2-05 As described in **Section 2** of this Response to Comments document, a queuing analysis for McGowan Parkway at NB SR-70 Ramps has been included in the revised Traffic Memorandum (**Attachment 1**). The queuing analysis concludes that implementation of the Proposed Project would not add more than one vehicle length to the queue lengths at this intersection.

A2-06 The commenter is correct that page 3.11-17 (PDF page 197 as noted by the commenter) of the Draft TEIR contained a typographical error, which incorrectly cites the "201 FEIS" instead of the intended "2010 FEIS". This error has been corrected in the Final TEIR. Refer to **Section 2.0** of this Response to Comments document for the revised language.

A2-07 As described in **Section 2** of this Response to Comments document, a queuing analysis for Forty Mile Rd at NB SR-65 Ramps and McGowan Parkway at NB SR-70 Ramps and has been included in the revised Traffic Memorandum (**Attachment 1**). The queuing analysis concludes that implementation of the Proposed Project would not add more than one vehicle length to the queue lengths at this intersection.

A2-08 The traffic mitigation measures included in Section 3.11.4 of the Final TEIR have been revised to indicate that the Tribe will contribute a proportionate share towards future improvements at these intersections as determined by an ICE. Refer to **Section 2.0** of this Response to Comments document for a description of this revision. This mitigation measure is included in the MMRP included as **Section 5.0.**

A2-09 The revised Traffic Memorandum (**Attachment 1**) has been updated to indicate the correct weekday and weekend scenarios in the traffic signal warrant analyses.

A2-10 The revised Traffic Memorandum (**Attachment 1**) has been updated to indicate the correct weekday and weekend scenarios in the traffic signal warrant analyses.

A2-11 Comment noted. As the commenter does not raise any environmental concerns, no further response is required.

A2-12 The Proposed Project does not propose any off-reservation construction or any construction within California's (State) Right of Way. Therefore, an encroachment permit is not necessary for construction of the Proposed Project. A detailed analysis of traffic-related impacts is presented in Section 3.11 of the Draft TEIR.

A2-13 A copy of the Final TEIR is available online at www.enterpriseteir.com. The Tribe will provide an electronic copy of the Final TEIR to Caltrans, and will notify Caltrans of further actions related to the Proposed Project.

MONTROSE ENVIRONMENTAL

Darienne Highsmith <dhighsmith@analyticalcorp.com>

[EXTERNAL] ENTERPRISE RANCHERIA FIRE MOUNTAIN CASINO MUSIC VENUE PROJECT

1 message

Sondra Spaethe <sspaethe@fraqmd.org> Thu, Apr 22, 2021 at 11:27 AM
To: "admin@enterpriseteir.com" <admin@enterpriseteir.com>

Good morning,

Thank you for providing the opportunity to review and comment on the Enterprise Rancheria Fire Mountain Casino Music Venue Project. The Feather River Air Quality Management District is the agency tasked with administering local, state, and federal air quality regulations for Yuba and Sutter counties. The District would like to request additional time to submit comments on the proposed project. Please advise if an additional week or two past the April 26th deadline would be acceptable.

A3-01

Thank you,

Sondra Spaethe
Planning and Engineering Supervisor
Feather River Air Quality Management District
541 Washington Avenue
Yuba City, CA. 95991
(530) 634-7659 ext 210

Working remotely due to COVID-19; please call my telework number (530) 324-6951.

Response to Comment Letter A3 – Feather River Air Quality Management District

A3-01 The commenter's summary of the Feather River Air Quality Management District's (FRAQMD) responsibilities is noted. As requested, the FRAQMD review and comment period was extended by two weeks, ending on May 10, 2021.

From: Tim Raney <timraney@raneymanagement.com>
Sent: Monday, March 29, 2021 2:47 PM
To: pbontadelli@analyticalcorp.com
Cc: Jim Goodwin <jgoodwin@wheatland.ca.gov>; Kevin Valente <kvalente@raneymanagement.com>
Subject: [EXTERNAL] Draft Tribal EIR for Enterprise Rancheria

Hello Pete,

The City of Wheatland would like to request a 21-day extension for the Tribal DEIR's comment period. The City of Wheatland is requesting the extension to allow additional time to review the Tribal DEIR in order to appropriately review any potential impacts to the City.

A4-01

The City of Wheatland looks forward to working together now and in the future. Thank you for your time and I look forward to your response to the City of Wheatland's request to extend the Tribal DEIR's comment period.

Tim Raney, AICP
Community Development Director
City of Wheatland
timraney@raneymanagement.com

Sent from my iPhone

Response to Comment Letter A4 – City of Wheatland

A4-01 The commenter was contacted via telephone regarding the request for the comment period extension. The commenter and the Tribe agreed on an extension of 23 days, ending on May 19, 2021. Although an extension was granted, no further comments were submitted by the City of Wheatland.

Comment Letter A5

From: **Perkins, Kevin** <kperkins@co.yuba.ca.us>
Date: Wed, Mar 24, 2021 at 4:47 PM
Subject: RE: [EXTERNAL] Draft Tribal EIR for Enterprise Rancheria
To: Peter Bontadelli, Jr. <pbontadelli@analyticalcorp.com>
Cc: dhighsmith@analyticalcorp.com <dhighsmith@analyticalcorp.com>, Lee, Mike G. <mlee@co.yuba.ca.us>

Pete,

Thanks again for taking the time last week to speak with Mike Lee and me about the Tribal DEIR and, also, for delivering a hard copy of the Tribal DEIR to CDSA's office following our call. As discussed in our call and in my email below, Yuba County CDSA did not receive the project's NOP or NOC notice and first learned about the Tribal EIR process the week of March 15th, 2021. As a result CDSA staff does not think we have adequate time to thoroughly review and potentially comment on the project by the April 26th, 2021 comment period end date. A5-01

Given that any potential comment letter would require CDSA to receive authorization from our Board of Supervisors, our Board's April 13th, , 2021 meeting would be the last available meeting to get such authorization and the deadline to submit an item for the April 13th, 2021 Board meeting has passed. Yuba County CDSA, respectfully, requests to extend the Tribal DEIR comment period from April 26th, 2021 to May 26, 2021. Again, this comment period extension would allow CDSA time to thoroughly review the Tribal DEIR and ensure that any project related impacts to the residents of Yuba County are adequately addressed. A5-02

Thank you for your time and I look forward to your response to CDSA's request to extend the Tribal DEIR's comment period.

Kevin Perkins

Planning Manager

County of Yuba

530-749-5470

Response to Comment Letter A5 – County of Yuba

A5-01 A hard copy of the Notice of Preparation was sent via Certified Mail to the County of Yuba on December 21, 2020, and delivery was confirmed via the mail carrier on December 22, 2020. Hard copies of the Notice of Completion and Draft TEIR were delivered to the County of Yuba Board of Supervisors on March 11, 2021. The Notice of Completion and Draft TEIR were published with the State Clearinghouse on March 10, 2021. Additional copies of the Draft TEIR were provided to County of Yuba staff in response to this comment to assist in the County of Yuba's review of the Draft TEIR and preparation of their comments on the Draft TEIR. The Tribe exercised appropriate due diligence to ensure that the requirements of the Procedures were met and that interested parties were notified. The County used their copy of the Draft TEIR in support of the negotiations between the County and the Tribe in the development of the negotiated intergovernmental mitigation agreement.

A5-02 The commenter was contacted via telephone regarding the request for the comment period extension. The commenter and the Tribe agreed on an extension of 23 days, ending on May 19, 2021. Although an extension was granted, no further comments were submitted by the County of Yuba as a negotiated agreement was reached with the Tribe for this Proposed Project, subject to final approval by the respective governing bodies of the County of Yuba and the Tribe.

FEATHER RIVER AIR QUALITY MANAGEMENT DISTRICT
Serving Sutter and Yuba Counties

541 Washington Avenue
Yuba City, CA 95991
(530) 634-7659
FAX (530) 634-7660
www.fraqmd.org

Christopher D. Brown, AICP
Air Pollution Control Officer

May 10, 2021

Enterprise Rancheria
c/o Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95811
admin@enterpriseteir.com

Re: Enterprise Rancheria Fire Mountain Casino Music Venue Project TEIR

Dear Enterprise Rancheria,

Thank you for the opportunity to review and comment on the above referenced project. The Feather River Air Quality Management District recommends the project include dust mitigation in the unpaved overflow parking lots. The dust mitigation measures should be sufficient to prevent fugitive dust from crossing the property lines, and may include having a water truck on-site to water the parking area multiple times per day as needed, establishing a responsible person to monitor the emissions, or adding dust suppressants to the parking lots. A6-01

Please let me know if you have any questions or concerns.

Thank you,

Sondra Spaethe
Planning and Engineering Supervisor
Feather River AQMD

Response to Comment Letter A6 – FRAQMD

A6-01 As requested, the Final TEIR has been revised to include Mitigation Measure 3.3-2. This mitigation measure requires implementation of dust control measures while unpaved overflow parking areas are in use. Refer to **Section 2.0** of this Response to Comments document for the new mitigation language. This mitigation measure is included in the MMRP included as **Section 5.0**.



Enterprise Rancheria
C/O Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, California 95811

April 23, 2021

Re: Planned Expansion for the Hard Rock Casino

To Whom It May Concern:

I am writing to express concern about the planned expansion of the Hard Rock Casino in Wheatland, and the additional negative impacts on our communities in the southern area of Sutter County. Since the opening of the new Casino in 2019, there has been a marked increase in speeding and trash along our roadways, and criminal and suspicious activity in our communities. We are concerned that the planned expansion will bring more of the same. O1-01

Sutter County residents who reside in the southern part of Sutter County began to address the issue of growing criminal and suspicious activity in our area over a year ago. We have evolved into a group called South Sutter Community Neighborhood Watch, SSCNW, Beat 10. The area spans approximately 200 square miles in South Sutter, and one of our eastern boarders is with Yuba County. We have more than 400 members and we are growing due to the high crime we are now experiencing. We have watched and kept statistics of the crime in our area that is constantly on the rise. We have developed sub-groups to specifically work on the traffic issues and speeding on our roadways, as well as a high-profile group that works in tandem with the SAYLOVE Non-Profit in both Sutter and Yuba counties to remove trash and litter from our roadways. O1-02

Our rural roadways and farm roads have become speedways and were never intended for the volume of traffic that we are experiencing. Speeders and reckless drivers prompted us to encourage the Sutter County Sheriff's Office, SCSO, and the California Highway Patrol, CHP, to begin a monitoring program to mitigate speeding in this area. This all costs our County valuable resources. On multiple occasions, speeding vehicles leave the roadway and entering orchards and fields, damaging trees and property. It's also not uncommon for our SCSO to discover parked cars with the inhabitants claiming they are coming to or from the Casino, and they are often found with drug paraphernalia or warrants for their arrest and/or inevitably are inebriated.

The litter from these travelers draws such attention, that it has caused our SSCNW group to enlist the help of SAYLOVE to collect the garbage along the roadways. As a South Sutter County Resident, I am abhorred each week when discovering the trash on the roads that are our thoroughfares into Yuba County into the Hard Rock Casino off of 40 Mile Road. Two months ago we had to find a way to dispose of the 60+tires we found on the roadways. Of those, 75 percent were from those very thoroughfares. We often find trash with Hard Rock Casino's logo. We take personal time every month to pick up this additional trash along the roads. A committee of volunteers now meets monthly with trailers and trucks to haul tons of trash from the roadside. The density of the trash gets thicker and thicker as the Casino is approached. All of this is in an effort to keep our area beautiful!! O1-03

Along with speeding and litter issues, theft has become a number one issue for our area and SCSO. These problems have been reported and are classified as burglaries, (including firearms and personal bank information). Theft of wire from solar panels, commercial pumps, and shops are prevalent. Mail theft or attempts are reported weekly. We believe that the majority of these thefts are due to the gambling aspect that the Hard Rock Casino brings into our neighborhood. We just can't reconcile it to any other cause locally.

While we know and understand that not every traffic stop or theft is attributable to the Casino, a large percentage has a direct correlation. Some form of financial relief from the casino is long overdue. It would be helpful for the Casino to provide additional funds to compensate adequate law enforcement to handle drivers who are under the influence, theft, trespass patrol, vandalism and regular roadside trash removal in both South Yuba and South Sutter County.

Thank you for your consideration.

Dee Adams
On behalf of South Sutter Community
designer.web.dee@gmail.com
917 Fourth Ave.
Rio Oso, CA 95674
(916) 838-4926

Pat Mullenburg
Pat Mullenburg
3620 Gallagher Rd
Rio Oso, CA 95674
530-635-0504

CC: Ent Rancheria, Oroville CA

Response to Comment Letter O1 – South Sutter Community Neighborhood Watch

O1-01 The commenter's summary of the following comments is noted. Please refer to the **Response to Comment O1-2** and **Response to Comment O1-3**.

O1-02 The commenter's summary of the South Sutter Community Neighborhood Watch's membership and roles is noted.

O1-03 Refer to **Master Response 1** regarding the regional plans to address cumulative increases in traffic on local roads. Refer to **Master Response 2** regarding enforcement of State and local laws in the vicinity of the Resort and impact to law enforcement services from the Proposed Project. Refer to **Master Response 3** regarding litter on local roadways in the vicinity of the Resort.

Comment Letter F1

April 22, 2021

Bruno & Aurora Vargas
1443 Forty Mile Road
Wheatland, CA 95692

Enterprise Rancheria
C/O Analytical Environmental Services
1801 7th Street, suite 100
Sacramento, CA 95811

RE: Draft Tribal Environmental Impact Report

To Whom It May Concern,

I am writing to address concerns regarding the Draft Tribal Environmental Impact Report submitted by Enterprise Rancheria. As a concerned neighbor of this Casino and a citizen of Yuba County, I would like to point out issues that have not been addressed in this report. Since the commencement of operations of Fire Mountain Casino, our rural community has been drastically changed in a negative manner. I will specifically mention several points that have directly affected my home, quality of life and the future of our families. F1-01

- **TRAFFIC:** A huge increase in traffic directly on our rural roads where speed limits are violated daily has increased since the opening of the casino. The speed of these vehicles is so fast that we are just waiting for a horrific accident to take place. Several small accidents have already occurred right in front of our home. This road was safe enough for our kids to actually ride a bicycle just not long ago. A solution to this would be additional CHP, patrolling our roads. The EIR reports states otherwise. Several Goals in the EIR report contradict the impacts. (IE: Goal CD14 through Goal CD17). EIR states impact on traffic would not create a need for additional services, I greatly disagree with the statement in the report. F1-02
    - EIR states - **Impact 3.10.3:** *While the Proposed Project would be expected to marginally increase demand for police protection services compared to existing conditions, the Proposed Project* ***would not*** *create the need for new or expanded police protection facilities because residential growth is not anticipated as a result of the Proposed Project.*

- **CRIME:** The increase in crime is alarming, since the opening of this casino, our property itself has been broken into three time! Gates, locks and additional lighting have been added in hopes of some deterrence. Living in this area for over 50 years without incident speaks volumes of the changes that are taking place currently. A solution would be addition patrolling by County Sheriffs or other security measures. This is also addressed in the EIR report 3.10.2 stating there is not a need for additional services. F1-03

- **GARBAGE:** The amount of garbage being dumped on our roads is devastating to say the least. There is no pride in the people that are being attracted to this venue. As mentioned by other neighbors, a Premier Casino Resort does not operate in this manner. A solution would be that Administration of this Casino would take responsibility and pride as a "good neighbor" to keep the area clean. EIR report talks about Aesthetics and resort views, garbage on the roads and neighboring areas are hardly aesthetically pleasing to the eye.

F1-04

As my fellow neighbors have mentioned, all of the above forementioned issues are seen daily, all of which are NEGATIVE IMPACTS of our neighborhoods. These issues are not addressed in your EIR and should be taken into consideration. Yuba County needs to be reimbursed for services required for a safer neighborhood. The Enterprise Rancheria Fire Mountain Casino operated by Hard Rock Casino has had and with an expansion will continue to have a **negative impact** on our personal safety as well as our personal property.

F1-05

We hope that you will take these concerns into consideration.

Respectfully yours,

Bruno Vargas
Aurora Vargas

Bruno & Aurora Vargas
Concerned Resident

Response to Form Letter 1

F1-01 The commenter's summary of their personal experience and relationship to the Project Site is noted. Please refer to the responses to the comments below.

F1-02 The commenter expresses concern over increased vehicle traffic, increased speed of vehicles, and potential accidents, but it is unclear which road the commenter is referring to with regards to these concerns. For the anticipated increases in traffic and their associated impacts (e.g. safety issues) as a result of the Proposed Project, please refer to **Master Response 1**.

The commenter incorrectly states that the "EIR states impact on traffic would not create a need for additional services." As described for Impact 3.10.3 in the Draft TEIR, the incremental increase in patrons resulting from implementation of the Proposed Project could result in a proportionate increase in crime, possibly including incidents requiring response by off-reservation law enforcement agencies. Additionally, the Proposed Project would generate additional traffic on roadways in the vicinity of the Project Site, which could result in increased traffic-related incidents. As described in Section 3.10.2 of the Draft TEIR, law enforcement services to the Project Site are provided by the Yuba County Sheriff's Department and the CHP. The response times and capabilities of the Yuba County Sheriff's Department and CHP could be impacted by those increases. While the Proposed Project would be expected to marginally increase demand for police protection services compared to existing conditions, the Proposed Project would not create the need for new or expanded police protection facilities.

In other words, the Draft TEIR states that the Proposed Project could result in an increased need for law enforcement services, but not to an extent that would warrant new or expanded police protection facilities; therefore, there would be no impact associated with off-reservation construction or alteration of such facilities. Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services.

F1-03 Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services specifically additional funding for the Yuba County Sheriff.

F1-04 Refer to the **Master Response 3** regarding the "Adopt-a-Highway" program established along Forty Mile Rd.

F1-05 The commenter expresses that "Yuba County needs to be reimbursed for services required for a safer neighborhood." Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services.

The commenter claims that the issues described in their comment letter were not addressed in the TEIR and should be taken into consideration. The Draft TEIR was prepared pursuant to the Procedures, which include an Off-Reservation Environmental Impact Analysis Checklist (Appendix A of the Draft TEIR) outlining the issue areas to be analyzed

within the Draft TEIR. The Draft TEIR and this Response to Comments document were prepared to address the issue areas required by the Procedures and all appropriate and/or significant off reservation impacts have been addressed per these Procedures. Refer to the **Response Comment F1-01** through the **Response to Comment F1-04** above.

Comment Letter F2

April 23, 2021

Enterprise Rancheria
C/O Analytical Environmental Services
1801 7th Street, suite 100
Sacramento, CA 95811

RE: Draft Tribal Environmental Impact Report

To Whom It May Concern,

I am a concerned neighbor of the Enterprise Rancheria Fire Mountain Casino and a citizen of Yuba County. There have been many changes in our rural community since the Casino has commenced operations. These issues were not directly addressed in your TEIR. F2-01

There is a huge increase in traffic on our rural roads as people try to go around traffic jams in other areas. The cars are driving too fast for the conditions of the roads. There is often Agricultural equipment and Livestock being moved around on these roads at reduced speeds. F2-02

There has also been a sharp increase in crime in the area including prostitution operating out of cars in broad daylight. Some of us have installed security cameras, locked gates, built security fences, hired private security and have large dogs in our yards to try to protect our selves and our personal property. F2-03

There are often parked illegally cars with or without people in them along our County roads. There are signs posted all along 40-mile road that clearly state "no parking." These cars are sometimes not fully off of the roadways for safe passage. F2-04

There is also an overabundance of garbage dumped on our roads. F2-05

Your Project Objectives state you want to remain competitive as a premier Casino Resort in Northern California. I suggest you drive by Colusa Casino or Thunder Valley and see if you see any of the above-mentioned impacts. F2-06

There isn't a day that I can drive on these roads without seeing some or all of this. These are unwelcome changes to your neighborhood. These issues should be addressed. Yuba County should be reimbursed for the services we are requiring. The Enterprise Rancheria Fire Mountain Casino operated by Hard Rock Casino has had a **negative impact** on our personal safety as well as our personal property. F2-07

Please take these comments into consideration.

Rafael Chavez-Sandoval

Angelina Rodriguez

Response to Form Letter 2

F2-01 The commenter's summary of their personal experience and relationship to the Project Site is noted. The commenter's introduction to the following comments is noted. Please refer to the responses to the comments below.

F2-02 For the anticipated increases in traffic and their associated impacts (e.g. safety issues) as a result of the Proposed Project, please refer to **Master Response 1**.

F2-03 Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services not otherwise addressed in the escalator clause of the Special District agreements which automatically increase based on increases in square footage of the overall Resort including the Proposed Project.

F2-04 For information regarding parking for the Proposed Project's patrons, please refer to Section 2.4.2 of the Draft TEIR. Therein described, the Resort would continue to have sufficient parking for its patrons after implementation of the Proposed Project during event and non-event days. During peak times, the Tribe has several options available to accommodate overflow parking should it be needed if onsite (on-reservation) parking is not sufficient. These options include utilizing the already developed 1,900 parking spaces on the land adjacent to the Project Site, now owned by the Tribe; using the 3-acre laydown lot east of the Project Site, also now owned by the Tribe that is capable of providing 200 additional spaces; the development of additional parking on other lands adjacent to the existing site that are also owned by the Tribe; contracting with neighboring agricultural properties on an as-needed basis to provide parking; or implementing the existing contract the Tribe has with the Toyota Amphitheater for overflow parking when events are not being held at the amphitheater. For all patrons that park in these off-reservation areas, shuttle services would be provided from these areas to the Project Site as needed. Consequently, the Proposed Project would not increase the number of vehicles parking on the road shoulders of Forty Mile Rd or any other road because patrons will consistently be provided parking.

In addition, since the publication of the Draft TEIR, the Tribe is in the process of investigating the illegal parking issue on Forty Mile Rd that includes reviewing any Sheriff reports related to the illegal parking. Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services.

For the anticipated increases in traffic and their associated impacts (e.g. safety issues) as a result of the Proposed Project, please refer to **Master Response 1**.

F2-05 Refer to the **Master Response 3** regarding the "Adopt-a-Highway" program established along Forty Mile Rd.

F2-06 This comment is noted, but it does not require a response because it does not raise a substantive environmental issue. The Tribe will consider this comment in the decision-making process.

F2-07 Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services.

Rice Lawyers, Inc

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Yuba City, CA 95991
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TIM KELLEHER
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ALAN W. HUDSON
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Monday, April 26, 2021

Via Electronic Mail and U.S. Post

Enterprise Rancheria
c/o Analytical Environmental Services
Attn: Ryan Sawyer, AICP
1801 7th Street, Suite 100
Sacramento, CA 95811
admin@enterpriseteir.com

Re: Draft Tribal Environmental Impact Report

Mr. Sawyer:

Our law firm represents Jean P. Alfaro, Christelle Alfaro and Alfaro Family Farms, LLC, (hereinafter collectively referred to as "Alfaro"). Alfaro currently owns the property located at 3374 Forty Mile Road, Olivehurst, CA 95961, which is directly across the street from the entrance to the Hardrock Hotel and Casino Sacramento (the "Casino"). Alfaro has engaged our firm to respond to the Draft Tribal Environmental Impact Report ("TEIR") prepared by Analytical Environmental Services ("AES") on behalf of the Estom Yumeka Maidu Tribe of the Enterprise Rancheria ("Enterprise Rancheria") for the Fire Mountain Casino Music Venue Project (the "Proposed Project"). After our review of the draft TEIR, our primary concerns are as follows: I1-01

1. **Increase in Traffic**. The draft TEIR insufficiently forecasted the increase in traffic that will result from the Proposed Project by only taking into consideration the months of November and December of 2019 and January and February of 2020. During this time period the Casino had no large events that will now be occurring on the scale of the Proposed Project. The data collected did not even take into consideration event traffic from Toyota Amphitheatre, as no events occurred during the time the data was collected, which would compound the traffic problems. Furthermore, the draft TEIR does not take into I1-02

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consideration all access points to the Proposed Project. Although the draft TEIR discusses traffic from the major access points to and/from the Proposed Project at State Route (SR) 65 and SR 70, the TEIR does not take into consideration incoming traffic from Rio Oso, CA, namely Pleasant Grove Road and Bear River Drive. These local roads are often congested during peak traffic hours, as highways motorists will often attempt to bypass traffic in particular on SR 65, as SR 65 becomes one (1) lane both ways through Wheatland, CA. As a result, traffic now often comes to a standstill during the hours of 4:00pm until 6:00pm. Local citizens of Rio Oso, CA have also complained regarding increased traffic on both Pleasant Grove Road and Bear River Drive since the opening of the Casino. The traffic on these roads is further exacerbated by events at the Toyota Amphitheatre. When events occur at the Toyota Amphitheatre, three (3) of the four (4) lanes of Forty Mile Road are utilized for event traffic leaving only one (1) lane for through traffic. As a result, our client, Alfaro, has had trouble just pulling into their own property located on Forty Mile Road and on at least one (1) occasion needed the assistance of law enforcement to be escorted onto their property. I1-02 (Cont.)

We propose additional data be collected to include incoming and outgoing traffic from all access points to the Proposed Project during peak hours as well as traffic caused by events located at the Toyota Amphitheatre. Once the data is collected, we request the TEIR be updated to reflect such traffic data and to provide Enterprise Rancheria's proposed traffic control plan to accommodate such increased traffic on dates where Toyota Amphitheatre and the Proposed Project's concert venue will have coinciding events.

2. **Traffic Safety**. Multiple accidents have occurred on Forty Mile as a result of traffic to and from the Casino. These unfortunate occurrences only stand to increase as traffic to and from the Proposed Project increases. These occurrences are likely attributable not only to the increased traffic but also due to the fact that there are no stoplights located on Forty Mile Road. We propose stoplights be installed on Forty Mile Road to increase traffic safety and to accommodate incoming and outgoing traffic to the Proposed Project. I1-03

3. **Separate Entrance**. No alternative entrances to the Proposed Project, other than potentially from a gas station to be constructed on Forty Mile Road, were set forth in the draft TEIR. A new entrance by way of an exit off of SR 65 may prove to reduce congestion on Forty Mile Road and the local roads located in Rio Oso, CA. I1-04

4. **Lack of Security and Law Enforcement**. Current Casino security and local law enforcement is insufficient to protect the local community from patrons that will be attending events at the Proposed Project's concert venue. Since the opening of the Casino, local citizens have reported an increase in crime including but not limited to theft, trespass and vandalism. Our client has been the victim of theft on three (3) separate occurrences since the Casino opened. Furthermore, Casino patrons often loiter on Forty Mile Road and I1-05

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have even wandered on to our client's property and banged on their front door in the middle of the night. These occurrences only stand to increase when the Proposed Project is completed. We propose Enterprise Rancheria increase its security personnel and coordinate with local law enforcement to have officers patrol Forty Mile Road to ensure that patrons are not loitering and disrupting the local community. I1-05 (Cont.)

If you have any questions regarding these comments or require additional information, please contact our office. Please also contact our office regarding future notifications regarding the Proposed Project. I1-06

Rice Lawyers, Inc

Tim Kelleher
Attorney at Law

TMK/awh
Enclosures: (none)
cc: Alfaro Family Farms, LLC, Jean P. Alfaro and Christelle Alfaro

Response to Comment Letter I1 – Tim Kelleher

I1-01 The commenter's summary of their relationship to the Proposed Project is noted. Please refer to the responses to the comments below.

I1-02 The purpose of the Traffic Memorandum prepared for the Draft TEIR is to the analyze the normal peak traffic conditions before and after implementation of the Proposed Project. The commenter is correct that data utilized in the traffic analysis within the Draft TEIR was collected during periods where the Toyota Amphitheater had no events. However, to account for decreased traffic as a result of the COVID-19 pandemic, the Traffic Memorandum increased the collected traffic count data by 15 percent. This increase was based on traffic count comparisons before and during the COVID-19 pandemic. It should be noted that this traffic count data was used to analyze the Proposed Project's potential to impact traffic conditions during normal periodic peak traffic hours, but was not used in the analysis of special event traffic.

Events at the Toyota Amphitheater are considered periodic traffic events that will inherently induce high traffic volumes and therefore unacceptable levels of service at intersections within the vicinity of the amphitheater are anticipated for events. The Toyota Amphitheater has an existing traffic management plan approved by the County of Yuba and implemented through the Yuba County Sheriff's Department and the CHP for events at the Toyota Amphitheater or additional exclusive significant events at the Project Site, including the opening of the Proposed Project. The Tribe assists the County of Yuba in implementing this traffic management plan, including supplementing the Toyota Amphitheater's payments to the CHP and Yuba County Sheriff for additional services during events.

Additionally, the Resort coordinates with CHP/Yuba County Sheriff and provides personnel to manually control vehicle entry into and exit from the Resort entrances during the heavy traffic congestion. The Resort would continue to assist in the implementation of the amphitheater traffic management plan after operation of the Proposed Project, and measures from this traffic management plan would be implemented during events at the proposed live music amphitheater at the Resort. Section 2.3 of the Draft TEIR was revised to provide succinct details on the existing traffic management plan that the Tribe assists in implementing. Refer to **Section 2.0** of this Response to Comments document for the revised language.

With regards to the commenter's recommendation to collect additional data at other access points, all study intersections and segments analyzed in the Draft TEIR were selected based on consultation with Caltrans and the County of Yuba. Based on these consultations, all major local and regional access points to the Project Site that could potentially have their current traffic conditions reduced to less than acceptable operating standards as set forth by the County of Yuba as a result of the Proposed Project have been analyzed in the Draft TEIR (refer to Section 3.11 of the Draft TEIR for the traffic analysis). Currently, regional access to the Project Site is provided via SR-65 and SR-70, and local access to the Project Site is only available on Forty Mile Rd. The vast majority of vehicles bound to and from the Project Site are anticipated to use the on- and off-ramps at the intersection of Forty Mile Rd at SR-65 in order to gain access to Forty Mile Rd. Most traffic is routed from SR-70 onto McGowan Parkway and then on to SR-65 southbound to the Forty Mile Road exit. While

some vehicles could select alternative routes to the Project Site, such as Pleasant Grove Road, these increases are unlikely to deteriorate the current conditions to unacceptable operating levels as set forth in the Yuba County General Plan. Because of these factors, updating the Final TEIR with additional data from other access points is not required. Refer to **Master Response 1** regarding the regional plans to address cumulative increases in traffic on local roads and the Tribe's payment of traffic impact fees.

I1-03 For the anticipated increases in traffic and their associated impacts (e.g. safety issues) as a result of the Proposed Project, please refer to **Master Response 1**. A Traffic Memorandum was prepared for the Draft TEIR to assess potential impacts on traffic (attached as Appendix D of the Draft TEIR), and this memorandum assessed if new traffic signal control would be required as a result of the Proposed Project. As discussed in Section 3.11.3 of the Draft TEIR, intersections McGowan Parkway at NB SR-70 Ramps and SR-65 at South Beale Road would create significant impacts that could be mitigated to less than significant with traffic signal control as specified under Impact 3.11.2. However, the additional traffic produced from the Proposed Project does not result in the peak-hour signal warrant being satisfied at this time. Based on this study and the required mitigation both from the original 2010 FEIS and the Draft TEIR, if and when a signal warrant is met the Tribe shall pay a fair (proportionate) share of the cost for whatever future improvements are determined necessary by an ICE. Consequently, the commenter's recommendation that stoplights be installed on Forty Mile Rd is not required to mitigate the Proposed Project's impact on this roadway. However, the recommendation will continue to be evaluated by the Tribe and the County of Yuba, including a signal at the Resort's main entrance which the Tribe is also committed to fund under existing agreements with the County of Yuba when warranted. Additionally, as described in **Comment Letter A2**, Caltrans reviewed the collision pattern at SR-65 and Forty Mile Rd and there were no collisions on record for the past three years.

I1-04 The Tribe is not proposing an alternative entrance as part of the Proposed Project; therefore, an alternative entrance was not required to be analyzed in the Draft TEIR as part of the Proposed Project. The Traffic Memorandum recommended feasible mitigation to reduce impacts on local roadways from the additional traffic generated by the Proposed Project to a less-than-significant level. None of the mitigation measures recommended included an alternative entrance to the Project Site; therefore, an alternative entrance was not required to be evaluated as part of the indirect impacts from off-reservation traffic mitigation (see Section 3.12.2 of the Draft TEIR). A roadway linking Hwy 65 to Hwy 70 is part of the ongoing SYTIA planning which would provide additional traffic flow options in the vicinity of the Resort and Proposed Project. (See Gen Response 1)

With regards to the Tribe constructing an alternative entrance via an exit off of SR-65, this option is highly unfeasible for multiple reasons with the most prominent reason being that this would require building an off-site access roadway through private property not owned by the Tribe. This off-site access road would require an extensive process that would include, but is not limited to, the purchasing of properties and/or securing easements through these properties, environmental review under the California Environmental Quality Act (CEQA), and securing multiple permits from different agencies. Because of these reasons, the recommendation of the Tribe building a new entrance to the Project Site via an exit off of SR-65 is not feasible. Refer to **Master Response 1** regarding planned traffic infrastructure improvements in the vicinity of the Project Site.

I1-05 Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services.

I1-06 A copy of the Final TEIR is available online at www.enterpriseteir.com. The Tribe will provide an electronic copy of the Final TEIR to the commenter.

April 22, 2021

Enterprise Rancheria
c/o Analytical Environmental Services
1801 7th Street, #100
Sacramento, CA 95811

RE: Tribal Impact Report for expansion of facility

To All Concerned,

As a neighbor to the casino, I have become aware that there are plans to expand the facility. The way I see it, as well as the rest of our community, you have failed to address our concerns with regards to the increased traffic, litter, and the unsavory people utilizing our country/private roads. I find it appalling that you would even consider any expansion whatsoever until you rectify the problems that currently exist. I2-01

A very close relative of mine works for the Placer County Sheriff's Department and occasionally has to patrol the Thunder Valley Casino. He, at one point mentioned that "any crime you can think of happens in and around these casinos". When your Fire Mountain Casino was being built, he said, "Well, there goes the neighborhood", referring to the crime issue. He was 100% accurate in his assessment, as I assumed he would be. I2-02

I believe it imperative that you should first correct the issues that have been previously mentioned in this letter, before you consider any type of expansion that will only exacerbate the current problems. I2-03

I have lived most of my 63 years within three miles of your facility in peace and harmony with my neighbors, until your establishment went in that is. Now, we are all constantly living in fear and disgust by what has only been a negative to us. So, I hope that before you move forward with your plans of expansion you fix what you broke. I2-04

Sincerely,

Grady Miller
PO Box 735
Wheatland, CA 95692
530.788.3884

Response to Comment Letter I2 – Grady Miller

I2-01 Refer to Sections 3.10 and 3.11 of the Draft TEIR for analyses of the Proposed Project's impacts to transportation, solid waste, and law enforcement. Refer also to the **Master Response 2** regarding public services**, Master Response 3** regarding litter, and **Master Response 3** regarding increases in traffic as a result of the Proposed Project.

I2-02 The commenter's summary of their opinion and their relative's opinion regarding the Resort's impact to crime is noted. Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services.

I2-03 The impacts of the existing Resort were analyzed separately in the 2010 FEIS, which included mitigation measures for those impacts identified to be significant. The Procedures require that the Draft TEIR analyzes the impacts of the Proposed Project, which is a separate project from the existing Resort. Accordingly, the Proposed Project is not responsible for the correction of existing issues, and the Draft TEIR includes mitigation measures for its contribution toward environmental issues, including impacts associated with traffic and law enforcement, as required by the Procedures. Section 3.12 of the Draft TEIR concludes that the Proposed Project would have a less-than-significant contribution toward cumulative impacts, including those related to traffic and law enforcement. For the anticipated increases in traffic and their associated impacts (e.g. safety issues) as a result of the Proposed Project, please refer to **Master Response 1**. Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services including targeted law enforcement in the vicinity of the Project Site.

I2-04 The commenter's summary of their opinions about the Proposed Project is noted. The Tribe will consider this comment in the decision-making process.

April 23, 2021

Enterprise Rancheria

C/O Analytica Environmental Services

1801 7th Street, suite 100

Sacramento, CA 95811

RE: Draft Tribal Environmental Impact Report

To Whom It May Concern,

We have lived on Forty Mile Road for 43 years and the Enterprise Rancheria Fire Mountain Casino is now a neighbor of ours. We are citizens of Yuba County and are concerned about many changes in our rural area since it has been built and opened for business. These issues were not directly addressed in TEIR. I3-01

Traffic has increased immensely on our county roads as people try to go around traffic jams in other areas. Due to traffic in and out of the casino, crashes between vehicles have occurred. Cars are driving too fast for the condition of roads. Farming equipment and Livestock being moved at slower speeds are not respected by drivers. This traffic problem impacts our livelihood. I3-02

Crime has increased immensely. We, along with our neighbors have been victims of trespassers and robbery! I3-03

Prostitution operating directly out of cars in daylight has been witnessed, illegally parked cars with or without people in them are a daily scene. "No Parking" signs are clearly posted up and down Forty Mile Road yet ignored by drivers. Often the cars parked are close to road, making it difficult to pass safely. I3-04

Trash has become an over-whelming issue and an eye sore to anyone. Garbage is dumped daily by drivers with no concern for the law. I3-05

We have installed security cameras, additional alarm system, and a gate in driveway to detour wandering walkers to come to our house. Many of our neighbors have taken the same safety measures. I3-06

Your Project Objectives say that you want to remain competitive as a premier Casino Resort in California. We wonder...does Colusa Casino and Thunder Valley have any of the above-mentioned impacts that change the way they live in their communities? We have been living here for decades feeling safe. However, since Fire Mountain Casino opened, we have experienced a great need for security of our safety and our property. Yuba County needs to be reimbursed for the services we are requiring. I3-07

Please take these issues and concerns into proper consideration.

Thank You, Laurie Peek Norene and Gerald M. Norene

Laurie Peek Norene & Gerald M Norene

Response to Comment Letter I3 – Laurie Norene and Gerald Norene

I3-01 The commenter's summary of their personal experience and relationship to the Project Site is noted. Please refer to the responses to the comments below.

I3-02 For the anticipated increases in traffic and their associated impacts (e.g. safety issues) as a result of the Proposed Project, please refer to **Master Response 1**.

I3-03 Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services.

I3-04 Please refer to the **Response to Comment F2-04** with regards to the Proposed Project's impact on off-site parking.

I3-05 Refer to the **Master Response 3** regarding the "Adopt-a-Highway" program established along Forty Mile Rd.

I3-06 The commenter's summary of their personal improvements to their property is noted. Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services.

I3-07 Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services.

Comment Letter I4

Sandra Gilbert
15 Pleasant Grove Road
Wheatland, California 95692

April 23, 2021

Hard Rock Hotel and Casino Sacramento at Fire Mountain
Enterprise Rancheria
C/O Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, California 95811

To Whom It May Concern:

After Fire Mountain Casino's original EIR was developed and approved for its existence, time passage has proven the mitigation measures outlined therein were incomplete and inadequate. The County of Yuba, the City of Wheatland and the residents of the rural community surrounding Hard Rock Hotel and Casino Sacramento at Fire Mountain were erroneously assured the activities would fit nicely into our community. Now, as the casino considers a major expansion it would be timely to address at least some of the problems that have arisen that were not properly identified at inception.

Admittedly, even though the public is encouraged to weigh in, experience from the first EIR indicates this correspondence will probably not even be read. Please prove me not the fool by your taking time to consider this letter worthwhile. After a thorough response to the previous EIR through attendance at all of the government required meetings and extensive correspondence to the given agencies (which were legally required by the government to allow the general public to give input) our citizens groups and individuals learned by sheer accident several years later that none of our diligence was required to be heard, read or considered.....only "government to government" comments and input are legally required to be considered. Even those are treated lightly. Many of the undesirable problems arising after the casino opened could have been avoided had the EIR been more accurate. I4-01

Now, if you are indeed reading this, may I discuss the present situations that are most uncomfortable for us that live and own property here. From a personal standpoint, my concerns are identical to those of my community. My family owns rural acreage and structures directly across Best Slough from the Hard Rock Hotel and Casino Amphitheater (within a quarter mile). That ranch has a long, graveled road from Oakley Lane onto the property. Frequent unsavory visitors loiter, sleep, and leave nasty garbage suggesting illicit activity and can be combative when confronted. Two such vehicles have been asked to leave in the last four days. I4-02

We also own orchard property approximately 5 miles south of the casino on 40-Mile Road. Those orchards have dirt access roads for orchard maintenance that prove especially attractive at all times of the day and night for trespass involving prostitution and drug dealing. Yesterday's cleanup by me included empty containers of whiskey bottles and a pair of bikini undies left behind. Confronting those I4-03

visitors is a delicate situation. Too, our vehicles and sheds have experienced thefts, mostly during the wee hours. Less fortunate neighbors have had their homes broken into.

We have the similar problems on our orchard properties fronting Wheatland Road between Pleasant Grove Road and Oakley Lane (approximately 7 miles south of the casino). As I stated above, our problems are no different than all our neighbors.

I4-03 (Cont.)

Another HUGE problem is the increase of drunken drivers and speeders on our small roads (in Yuba County involving 40 Mile Road, Oakley Lane, Wheatland Road...in Sutter County involving Pleasant Grove Road, Riego Road, Bear River Road, etc. all the way to the Sacramento County line. These roads have no shoulders to speak of or safe places to pass. Stop signs at the Wheatland/Pleasant Grove Road and the 4-Corners four way stop signs have especially experienced many accidents. Law enforcement and emergency services are stretched to the limit. Many of the accidents leave damage of one sort or another, hospitalization, death, damage to property and genuine fear to slower moving vehicles and farm equipment. Across the road from my house (the scene of many accidents), 5 days ago, 3 pear trees and a the car involved were completely destroyed. Somehow the young driver walked away. Last month we lost 4 young walnut trees because of a distracted driver. We were happy that he also lived.

I4-04

Sutter County is affected as much, or more, than Yuba County since the county line begins 5 ½ miles south of the casino. The casino does not fund Sutter County where so many traffic problems, drug dealings and thefts have occurred since the casino opened. Sutter County law enforcement and emergency services are stretched thin handling the volume. Volunteers have had to step up, dividing south Sutter County into zones to man an active, overworked Community Watch assisting law enforcement and emergency vehicles.

I4-05

Note that the roadside trash becomes heavier and heavier as the casino is neared. As property owners, we individually clean roadside trash every four or five days.....a lot of empty liquor containers with a few "Hard Rock Café" paper cups in the mix, and the disgusting evidence of prostitution and drugs. Once a month volunteers gather to bring their trucks and trailers to fill with debris collecting along the roads and waterways. An unbelievable number of stolen, burned out vehicles are removed from off the road.

I4-06

Hard Rock has been receiving growing negative publicity. To date casino management has not acknowledged responsibility, nor entertained solutions, for areas of concern evidenced since opening. Instead of ignoring public complaints, those complaints should at least be acknowledged. We once had a safe community surrounded by pretty country roads. That scenario has deteriorated since the casino opened. It occurs to me that safe and pleasant surroundings would serve your business enterprise as much as those of other business and residents surrounding you.

I4-07

Currently this community is reaching deep into their own pockets and time resources to provide help dealing with problems spawned by the casino. At this point, it will be difficult to correct some of these problems. But, here are a few suggestions to help toward that end:

I4-08

- Monitoring and curtailing drivers entering and leaving your establishment who are under the influence.
- Monitoring the parking lot for drug and prostitution dealings.
- Monitoring for car theft, purse snatchings, sales of stolen goods in casino parking lot.
- Funding 24-hour patrol from Hwy. 65/40 Mile Road Intersection to the north, and to at least the Sutter County line to the south, working with neighbors to keep them safe and trespass free.
- Provide safe passage for increasing foot traffic coming and going to your casino. The narrow shoulder strip on 40 Mile Road being used for that purpose is dangerous.
- Work towards helping clean trash along the roads.
- Provide funding for Sutter County Law and Emergency services.

I4-08 (Cont.)

By taking a step forward to do your part to work together with our community, the casino could be very much more compatible, safer, cleaner, profitable, and more attractive to both locals and visitors.

On behalf of my family and neighbors,

Sandra Gilbert

Sandra Gilbert

Cc: U.S. Department of the Interior, Governor of California, Assemblyman James Gallagher, Senator Jim Nielson, County of Yuba, County of Sutter, City of Wheatland, City of Marysville, Yuba-Sutter Appeal Democrat, Merced Sun Star, Miami Herald

Response to Comment Letter I4 – Sandra Gilbert

I4-01 The commenter's opinion that the mitigation measures for the 2010 FEIS were "incomplete and inadequate" is noted. The purpose of this public comment period is to obtain comments on the Proposed Project, which is a separate project from that described in the 2010 FEIS, and associated Draft TEIR. The Proposed Project is not responsible for the correction of existing issues, and the Draft TEIR includes mitigation measures for its contribution toward environmental issues as required by the Procedures. The 2010 FEIS included mitigation for fair share payments toward future traffic improvements to be implemented by the County of Yuba. The County of Yuba has not completed these improvements to date; however, the Tribe's obligation to contribute a fair share toward such improvements when they are implemented is still required. Refer to **Master Response 1** regarding planned traffic infrastructure improvements in the vicinity of the Project Site and the payment of traffic impact fees per SYTIA.

The Draft EIS for the Enterprise Rancheria Gaming Facility and Hotel Fee-to-Trust Acquisition (2010 DEIS) process was implemented pursuant to the National Environmental Policy Act, which requires a response to all public comments submitted during the public comment period for a draft document. All comments that were received on the 2010 DEIS were recorded, reviewed, and responded to. The commenter's comment on the 2010 DEIS and its respective response were published in Volume III, Appendix T, of the 2010 FEIS, recorded as Comment Letter I-4 ("Presentation by Sandra Gilbert").

Consistent with the requirements of the Procedures, all comments submitted during the public comment period for the Draft TEIR have been recorded, reviewed, and responded to within this Final TEIR.

I4-02 The commenter's summary of their personal experience and relationship to the Project Site is noted. Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services. Refer to the **Master Response 3** regarding the "Adopt-a-Highway" program established along Forty Mile Rd.

I4-03 Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services. Refer to the **Master Response 3** regarding the "Adopt-a-Highway" program established along Forty Mile Rd.

I4-04 With regards to drunk driving, the Tribe has created a standard policy encouraging responsible drinking and designated driver programs in accordance with Mitigation Measure J in Section 5.2.8 of the 2010 FEIS. This includes that all Resort staff serving and/or selling alcoholic beverages undergo Responsible Beverage Service Training; this training teaches strategies to avoid illegally selling alcohol to underage youth or intoxicated patrons. Consequently, the Responsible Beverage Service Training decreases the probability of adverse effects from serving alcohol onsite, such as drunk driving, and this training would continue after implementation of the Proposed Project. With regards to the Proposed Project impact on traffic and its associated impacts on applicable roads within County of

Yuba, including traffic related hazards (e.g. farming equipment), please refer to the **Master Response 1.**

I4-05 As required by the Procedures, the Draft TEIR analyzes the off-reservation impacts of the Proposed Project, including impacts throughout the County of Yuba and the County of Sutter. The Draft TEIR includes mitigation measures for its contribution toward environmental issues as required by the Procedures, and mitigation measures are not geographically restricted to the County of Yuba.

The Tribe does not have jurisdiction to enforce State and local laws off-reservation; this is the responsibility of local law enforcement. The Procedures do not require an agreement between the Tribe and the County of Sutter to compensate for increased law enforcement services. While no direct contributions are required to be made to the County of Sutter, the operation of the Resort has generated approximately $14 million annually for the County of Sutter in indirect and induced revenues (i.e. income tax) for the last three years.[2] As described in Section 3.8.3 of the Draft TEIR, the Proposed Project is anticipated to generate approximately 45 new positions at the Resort; new employees resulting from implementation of the Proposed Project will proportionately increase this contribution. This increase in tax revenue could be used to support the Sutter County Sherriff's Department at the discretion of the County of Sutter. Any future incidents of trespassing and other illegal activities should be reported to the proper authorities that have the jurisdiction to enforce State and local laws.

I4-06 Refer to the **Master Response 3** regarding the "Adopt-a-Highway" program established along Forty Mile Rd.

I4-07 The Draft TEIR included mitigation measures for its contribution toward environmental issues as required by the Procedures. This comment is noted, but it does not require a response because it does not raise a substantive environmental issue. The Tribe will consider this comment in the decision-making process.

I4-08 As described in the **Response to Comment I4-04**, the Tribe operates a standard policy encouraging responsible drinking and designated driver programs at the Project Site. Refer to **Master Response 2** regarding the negotiated intergovernmental mitigation agreement which includes provisions for compensation for increased public services. Further, as described in the 2010 FEIS, security personnel provide surveillance of the casino, parking areas, and surrounding grounds, and patrol the facilities to reduce and prevent criminal and civil incidents. These responsibilities will be maintained under the Proposed Project.

With regards to the recommendation to "provide safe passage for increasing foot traffic coming and going to your casino," the Tribe will be providing a safe transportation method for patrons that would need to park off-site during peak demand periods. As described in the **Response to Comment F4-04**, the Proposed Project would have adequate parking during peak and non-peak periods with several options available for off-site overflow parking during peak demand periods. Should patrons need to utilize the off-site overflow parking, the Tribe would provide a shuttle service from the off-site overflow areas to the

[2] Hard Rock Hotel and Casino, 2021. *Yuba-Sutter Payroll Investment.* Received by email on May 17, 2021.

Project Site. This would thus effectively eliminate the need for patrons to walk to the Project Site on road shoulders, such as on Forty Mile Rd.

Refer to the **Master Response 3** regarding the "Adopt-a-Highway" program established along Forty Mile Rd. Refer to the **Response to Comment I4-05** regarding the Resort's financial contribution toward the County of Sutter.

SECTION 5.0

MITIGATION, MONITORING, AND REPORTING PROGRAM

5.0 MITIGATION, MONITORING, AND REPORTING PROGRAM

5.1 INTRODUCTION

When approving projects that identify significant impacts, public agencies typically adopt monitoring and reporting programs or conditions of project approval to mitigate or avoid the identified significant effects. An agency adopting measures to mitigate or avoid the significant impacts of a proposed project is often required to ensure that the measures are fully enforceable, through permit conditions, agreements, or other means. The mitigation measures required by a public agency to reduce or avoid significant project impacts not incorporated into the design or program for the project may be made conditions of project approval as set forth in a Mitigation Monitoring and Reporting Program (MMRP). The resulting MMRP must be designed to ensure project compliance with mitigation measures during project implementation.

Although not required by the Secretarial Procedures for the Tribe (Procedures), the MMRP for the Fire Mountain Casino Music Venue Project (Proposed Project) is presented in this chapter. The MMRP includes the mitigation measures identified in the Tribal Environmental Impact Report (TEIR) required to address the significant impacts associated with the Proposed Project. The required mitigation measures are summarized in this program; the full text of the impact analysis and mitigation measures are presented in the Draft TEIR's Executive Summary, except as revised in this Final TEIR.

5.2 FORMAT

The MMRP is organized in a table format (see **Table 5-1**), keyed to each significant impact and each TEIR mitigation measure. Only mitigation measures adopted to address significant impacts are included in this program. Each mitigation measure is set out in full, followed by a tabular summary of monitoring requirements. The column headings in the tables are defined as follows.

- **Mitigation Measures:** This column presents the mitigation measure identified in the TEIR.
- **Site(s) Affected:** The mitigation measures are, in some cases, site specific. This column identifies which specific sites would need to adhere to the mitigation measure, or if the feature/measure addresses all sites.
- **Implementation Procedures:** This column identifies the procedures associated with implementation of the mitigation measure.
- **Monitoring Responsibility:** This column contains an assignment of responsibility for the monitoring and reporting tasks.
- **Monitoring and Reporting Action:** This column refers the outcome from implementing the mitigation measure.
- **Schedule:** This column provides the general schedule for conducting each mitigation task, identifying where appropriate both the timing and the frequency of the action.
- **Verification of Compliance:** This column may be used by the lead agency to document the person who verified the implementation of the mitigation measure and the date on which this verification occurred.

5.3 ENFORCEMENT

If the Proposed Project is approved, the MMRP could be incorporated as a condition of such approval, in which case all mitigation measures for significant impacts must be carried out in order to fulfill the requirements of approval. Implementation actions are outlined in each measure. A number of the mitigation measures would be implemented during the course of the development review process. These measures would be checked on plans, in reports, and in the field prior to construction. Most of the remaining mitigation measures would be implemented during the construction or project implementation phase.

TABLE 5-1
MITIGATION, MONITORING, AND REPORTING PROGRAM

Mitigation Measures	Site(s) Affected	Mitigation/Monitoring Responsible Party	Timing for Mitigation Measure	Verified By and Date
3.2 Aesthetics				
MM 3.2-1. The Tribe shall ensure that the following measures are implemented (through contractual requirements if and as needed) to minimize the effects of lighting and glare from the construction and operation of the Proposed Project: a) The Tribe shall limit construction activities for the Proposed Project to between 7:00 a.m. and 7:00 p.m. to the extent feasible and reasonable. If dusk or nighttime activities are necessary at the Project Site, lighting for those activities shall be strictly limited to the minimum locations necessary for safety and security and shall be downcast onto the worksite to prevent lighting and glare impacts on off-reservation residential structures. b) Permanent exterior lighting for the Proposed Project would be the same as the exterior lighting at the existing Casino Resort.	Project Site	The Contractor is responsible for implementing MM3.2-1-a while the Tribe would be responsible for MM3.2-1-b. The Tribe is responsible for monitoring for compliance monitoring.	Planning Phase and Construction Phase	*Verified By:* *Date:*
3.3 Air Quality				
MM 3.3-1. To reduce construction emissions, the Tribe shall require that construction contractors implement the following best management practices during construction: a) Off-road construction equipment shall utilize tier three engines as defined by the USEPA's Vehicle Emission and Fuel Standards Program, to the extent that such equipment is feasibly available. In addition, construction equipment shall be operated with a level three diesel particulate filter. b) Exposed soil shall be sprayed with water daily as needed. c) Dust emissions shall be minimized during transport of fill material or soil by wetting down loads, ensuring adequate freeboard (space from the top of the	Project Site	The Contractor is responsible for implementing mitigation and the Tribe is responsible for monitoring for compliance.	Construction Phase	*Verified By:* *Date:*

Mitigation Measures	Site(s) Affected	Mitigation/Monitoring Responsible Party	Timing for Mitigation Measure	Verified By and Date
material to the top of the truck bed) on trucks, and/or covering loads. d) Dirt, gravel, and debris piles shall be covered as needed to reduce dust.				
MM 3.3-2. Signs limiting traffic speeds in the unpaved parking lot to no more than 15 miles per hour will be strategically placed at the entrance to and throughout the unpaved parking lot. Additionally, on the days that the unpaved overflow parking lots are used for employee and/or visitor parking, the Tribe shall spray exposed parking areas with water or dust suppressants as needed.		The Tribe is responsible for including this feature in the design.	Planning Phase, Construction Phase, and Operation Phase	*Verified By:* *Date:*
3.4 Biological Resources				
MM 3.4-1. Construction activities within the identified habitat for giant garter snake shall be avoided as identified in BO. The USFWS guidelines for giant garter snake avoidance and minimization will be followed. Construction personnel shall participate in a USFWS approved worker environmental awareness program. Under this program, workers shall be informed about the presence of giant garter snakes and habitat associated with the species and that unlawful take of the animal or destruction of its habitat is a violation of the Act. Prior to construction activities, a qualified biologist approved by the Service shall instruct all construction personnel about: (1) the life history of the giant garter snake; (2) the importance of irrigation canals, marshes/wetlands, and seasonally flooded areas, such as rice fields, to the giant garter snake; (3) sensitive areas, detailing limits of the construction area, showing workers the designated buffers, and explaining why they must stay out of the buffers. Proof of this instruction shall be submitted to the Sacramento Fish and Wildlife Office.	Identified giant garter snake boundary area	The Tribe is responsible for implementing the mitigation measure. The USFWS is responsible for monitoring for compliance.	Planning Phase and Construction Phase	*Verified By:* *Date:*

Mitigation Measures	Site(s) Affected	Mitigation/Monitoring Responsible Party	Timing for Mitigation Measure	Verified By and Date
No more than 24-hours prior to start of construction activities (site preparation and/or grading), the southern portion of the project area adjacent to the ditch shall be surveyed for the presence of giant garter snake. If construction activities stop on the site for a period of two weeks or more, a new giant garter snake survey should be completed no more than 24-hours prior to the re-start of construction activities. A qualified biologist shall conduct monitoring for giant garter snake during construction within the identified giant garter snake boundary area. If a snake is encountered during construction activities, the monitoring biologist shall have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake will not be harmed. Giant garter snakes encountered during construction activities should be allowed to move away from construction activities on their own. Capture and relocation of trapped or injured individuals can only be attempted by personnel or individuals with current USFWS recovery permits pursuant to section 10(a)1(A) of the Act. A qualified biologist shall be available for monitoring for giant garter snakes throughout the duration of construction. Establish fencing prior to construction to demarcate the construction area and prevent encroachment of construction personnel and equipment into adjacent habitats for sensitive species. The USFWS recommends that plastic mono-filament netting (erosion control matting) not be used for erosion control. Snakes may become entangled in it. Acceptable substitutes include coconut-coir matting or tackified hydroseeding.				

Mitigation Measures	Site(s) Affected	Mitigation/Monitoring Responsible Party	Timing for Mitigation Measure	Verified By and Date
Pre-construction surveys for giant garter snake shall be completed by a qualified biologist along the South Yuba Water District irrigation ditch to follow the USFWS guidelines.				
MM 3.4-2. If feasible, construction activities related to the Proposed Project, including movement of heavy equipment and grading, shall be commence outside of the nesting period (generally between March and mid-September). If construction activities cannot be avoided during the nesting period, a qualified biologist shall conduct preconstruction surveys for raptor nests within 500 feet of the area of disturbance. Impacts to potential foraging habitat for Swainson's hawk shall be mitigated according to the guidelines identified in the California Department of Fish and Wildlife's Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California (1994). The surveys shall be conducted no more than 5 days before the beginning of construction. If no active bird nests are identified, no further mitigation is necessary. Surveys for the Swainson's Hawks will include a survey known raptor nesting sites within 0.5 miles of the disturbed area, as land access allows. If active bird nests are identified, construction activities within 500 feet, or another distance as determined by a qualified biologist based on the identified species, shall be postponed until after the nesting season, or until after a qualified biologist has determined that the young have fledged and are independent of the nest site. No known active nests shall be disturbed without a permit or other authorization from the USFWS and/or CDFW.	Project Site	The Tribe is responsible for implementing the mitigation measure. The USFWS is responsible for monitoring for compliance.	Planning Phase and Construction Phase	

Mitigation Measures	Site(s) Affected	Mitigation/Monitoring Responsible Party	Timing for Mitigation Measure	Verified By and Date
3.6 Hazards and Hazardous Materials				
MM 3.6-1. Protection of the Environment from Hazardous Materials during Construction: ▪ During construction of the Proposed Project, the Tribe shall ensure, through the enforcement of contractual obligations of the contractors performing such construction, that all contractors prepare HMBPs if quantities of hazardous materials to be used are above applicable threshold criteria, and that such contractors transport, store, and handle construction-related hazardous materials in a manner consistent with applicable regulations and guidelines. These requirements may include, but are not limited to, applicable federal, state, and/or local regulatory agency protocols for off-reservation transportation and storage of materials and applicable federal and Tribal protocols for on-trust land storage and handling of materials. ▪ As discussed in **Section 3.7, Hydrology and Water Quality**, a Stormwater Pollution Prevention Plan shall be prepared for the Proposed Project that identifies best management practices (BMP) to be implemented during construction of the Proposed Project, as required by the NPDES Construction Stormwater General Permit. All BMPs required by the NPDES General Permit shall be implemented to ensure that hazardous materials do not enter any nearby waterways. BMPs outlined in **Mitigation Measure 3.7-1** shall be implemented, including the following practices that pertain to reducing the potential for the release of hazardous materials during construction. o Hazardous materials such as fuels and solvents used on the construction site shall be stored in covered containers and	Project Site	The Tribe/Contractor is responsible for implementing the mitigation measure. The USEPA is responsible for monitoring for compliance for NPDES General Permit and if a remediation plan is implemented. The Tribe is responsible for monitoring the Contractor for the remaining mitigation measure compliance.	Construction Phase	*Verified By:* *Date:*

Mitigation Measures	Site(s) Affected	Mitigation/Monitoring Responsible Party	Timing for Mitigation Measure	Verified By and Date
protected from rainfall, runoff, vandalism, and accidental release to the environment. All stored fuels and solvents shall be contained in an area of impervious surface with containment capacity equal to the volume of materials stored. ○ A stockpile of spill cleanup materials shall be readily available at all construction sites. Construction workers shall be trained in spill prevention and cleanup, and individuals shall be designated as responsible for prevention and cleanup activities. ○ Equipment shall be properly maintained in designated areas with runoff and erosion control measures to minimize accidental release of pollutants. ▪ In the event that contaminated soil is encountered or suspected during construction-related earth-moving activities, all work will be halted until a professional hazardous materials specialist or other qualified individual assesses the extent of contamination. If contamination is determined to be hazardous, the Tribe will consult with the USEPA to determine the appropriate course of action to prevent potential contamination to the off-Reservation environment. If necessary, the Tribe shall implement a remediation plan in conjunction with continued project construction. Contaminated soils that are determined to be hazardous will be disposed of in accordance with federal regulations.				

Mitigation Measures	Site(s) Affected	Mitigation/Monitoring Responsible Party	Timing for Mitigation Measure	Verified By and Date
MM 3.6-2. Construction personnel shall follow written standard operating procedures (SOPs) for servicing and operating construction equipment and vehicles to reduce the potential for wildland fires. These SOPs shall address equipment use and the storage and use of hazardous materials during construction of the Proposed Project. The SOPs shall include the following procedures, to be implemented where feasible and when reasonable: 1. Refueling shall be conducted only with approved pumps, hoses, and nozzles; 2. Catch-pans shall be placed under equipment to catch potential spills during servicing; 3. All disconnected hoses shall be placed in containers to collect residual fuel from the hose; 4. Vehicle engines shall be shut down during refueling; 5. No smoking, open flames, or welding shall be allowed in refueling or service areas; 6. Service trucks shall be provided with fire extinguishers; 7. Staging areas, welding areas, and areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel. To the extent feasible, the contractor shall keep these areas clear of combustible materials to maintain a firebreak; 8. Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order; and 9. All hazardous materials transported to or from the Project Site shall be transported in accordance with applicable state and federal regulations as required based on quantity and class of materials.	Project Site	The Contractor is responsible for implementing mitigation and the Tribe is responsible for monitoring for compliance.	Construction Phase	*Verified By:* *Date:*

Mitigation Measures	Site(s) Affected	Mitigation/Monitoring Responsible Party	Timing for Mitigation Measure	Verified By and Date
3.7 Hydrology and Water Quality				
MM 3.7-1. Stormwater General NPDES Permit for Construction Activities. The Tribe shall comply with the terms of the USEPA's Stormwater General NPDES Permit for Construction Activities prior to and during construction of the Proposed Project. As part of its compliance with the permit, the Tribe shall prepare and implement a SWPPP for construction activities. The SWPPP shall identify pollutant sources that may affect the quality of stormwater discharge. The SWPPP shall include site-specific BMPs to reduce these pollutants and minimize the potential for their release into natural waters. BMPs may include, but are not limited to, the following: a) If excavation occurs during the rainy season, stormwater runoff from the construction area shall be regulated through a stormwater management/erosion control plan that shall include temporary on-site silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters. Stockpiles of loose material shall be covered and runoff diverted away from exposed soil material. If work stops due to rain, a positive grading away from slopes shall be provided to carry the surface runoff to areas where flow would be controlled, such as the temporary silt basins. Sediment basins/traps shall be located and operated to minimize the amount of off-reservation sediment transport. Any trapped sediment shall be removed from the basin or trap and placed at a suitable location on site, away from concentrated flows, or removed to an approved disposal site. b) Temporary erosion control measures (such as fiber rolls, staked straw bales, detention basins, check dams, geo fabric, sandbag dikes, and temporary revegetation or other ground cover) shall be provided until perennial revegetation or landscaping is established and can minimize discharge of sediment	Project Site	The Tribe is responsible for implementing mitigation and the USEPA is responsible for monitoring for compliance.	Planning Phase and Construction Phase	*Verified By:* *Date:*

Mitigation Measures	Site(s) Affected	Mitigation/Monitoring Responsible Party	Timing for Mitigation Measure	Verified By and Date
into nearby waterways. For construction within 500 feet of a water body, appropriate erosion control measures shall be placed upstream adjacent to the water body. c) No disturbed surfaces shall be left without erosion control measures in place during the spring and winter months. d) Hazardous materials such as fuels and solvents used on the construction site shall be stored in covered containers and protected from rainfall, runoff, vandalism, and accidental release to the environment. All stored fuels and solvents shall be contained in an area of impervious surface with containment capacity equal to the volume of materials stored. e) A stockpile of spill cleanup materials shall be readily available at all construction sites. Construction workers shall be trained in spill prevention and cleanup, and individuals shall be designated as responsible for prevention and cleanup activities. f) Equipment shall be properly maintained in designated areas with runoff and erosion control measures to minimize accidental release of pollutants.				
3.9 Noise				
MM 3.9-1. The following shall be done during construction of the Proposed Project to reduce the induced noise to acceptable levels: 1. Construction activities within a half-mile of existing noise sensitive uses shall be limited to daytime hours (7 a.m. and 7 p.m.). 2. Engine-powered construction equipment shall be fitted with adequate mufflers and enclosures as supplied by the manufacturer, maintained in good condition. During the use of engine-powered construction equipment located within a 1,000 feet of	Project Site	The Contractor is responsible for implementing mitigation and the Tribe is responsible for monitoring for compliance.	Construction Phase	*Verified By:* *Date:*

Mitigation Measures	Site(s) Affected	Mitigation/Monitoring Responsible Party	Timing for Mitigation Measure	Verified By and Date
sensitive receptors (the home across Forty Mile Rd from the Project Site), the construction site should be shielded from those sensitive receptors by temporary barriers blocking line of sight between the source and receiver.				
3.11 Transportation				
MM 3.11-1. Intersection Improvements a) **Forty Mile Rd at NB SR-65 Ramps**: Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards future improvements at this intersection as determined by an Intersection Control Evaluation (ICE). b) **McGowan Parkway at NB SR-70 Ramps**: Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards future improvements at this intersection as determined by an Intersection Control Evaluation (ICE). c) **SR-65 at Main Street**: Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards improvements throughout Wheatland, including the Wheatland Bypass. d) **SR-65 at South Beale Road**: The Tribe shall contribute its proportionate share towards future improvements at this intersection as determined by an Intersection Control Evaluation (ICE).	Off-Site Intersections	The Tribe is responsible for implementing mitigation and Caltrans/County/Wheatland is responsible for monitoring for compliance.	Planning Phase, Construction Phase, and Operation Phase	*Verified By:* *Date:*

ATTACHMENT 1

REVISED TRAFFIC MEMORANDUM (APPENDIX D OF THE DRAFT TEIR)

Kimley»Horn

Memorandum

To: Pete Bontadelli, Project Director
Analytical Environmental Services

From: MyThu Lam, E.I.T.
Matt Weir, P.E., T.E., PTOE, RSP_1

Re: ***Hard Rock Hotel & Casino Sacramento – Hard Rock Live***
Traffic Evaluation
Yuba County, California

Date: April 21, 2021

Per your request, we have prepared this traffic evaluation for the above referenced project.

Project Understanding

Kimley-Horn understands that a Hard Rock Live facility is proposed to be constructed as an addition to the existing Hard Rock Hotel & Casino Sacramento in Yuba County, California (see **Exhibit 1**). The Hard Rock Live project consists of an approximately 95,000-square foot building expansion at the northeast side of the existing building, with 75,000-square feet allocated to an indoor entertainment venue and 20,000-square feet allocated to "back of house" space. The indoor entertainment venue includes 3,000 seats and the back of house space includes expanded offices and warehouse facilities. For the purposes of this evaluation and in a manner consistent with prior studies, the number of seats in the entertainment venue was considered the independent variable. Accordingly, the Hard Rock Live project was analyzed as a 3,000-seat entertainment venue (the "Project" or "Proposed Project"). Access to the Proposed Project will be from Forty Mile Road via the two existing, full-access driveways and an additional full-access driveway associated with the planned gas station, for a total of three (3) access points (see **Exhibit 2**). Although not a part of the Proposed Project, a gas station with a convenience store/smoke shop is also being developed on the Hard Rock Hotel & Casino Sacramento site and is assumed to be operational at the time the Proposed Project is completed.

The purpose of this evaluation is to identify potential off-reservation traffic impacts that may be attributable to the Proposed Project. This traffic evaluation was performed in accordance with the state of the traffic engineering practice and in a manner that is intended to allow for a comparison to a traffic study[1] prepared in support of the project's Environmental Impact Statement (EIS).

Study Facilities and Analysis Methodology

Study Facilities

Access to the project site is provided via three (3) full-access driveways along Forty Mile Road, two of which are existing and the other will be constructed as part of the aforementioned gas station project. **Exhibit 3** illustrates the study facilities, existing traffic control, and existing lane configurations. The following intersections are included in this evaluation:

1. Forty Mile Road @ Southbound State Route 65 (SR-65) Ramps
2. Forty Mile Road @ Hard Rock Driveway (North)
3. Forty Mile Road @ Hard Rock Driveway (South)
4. Forty Mile Road @ Plumas Arboga Road

[1] *Enterprise Rancheria Casino-Hotel Traffic Impact Study,* AES, March 6, 2003.

5. Forty Mile Road @ NB SR-65 Ramps
6. McGowan Parkway @ SB SR-65 Ramps
7. McGowan Parkway @ NB SR-65 Ramps
8. McGowan Parkway @ SB SR-70 Ramps
9. McGowan Parkway @ NB SR-70 Ramps
10. SR-65 @ Main Street (Wheatland)
11. SR-65 @ First Street (Wheatland)
12. SR-65 @ South Beale Road
13. *Forty Mile Road @ Hard Rock/Gas Station Driveway (future)*

In addition, the following roadway segments were evaluated (weekend PM only):

1. Forty Mile Road, north of Hard Rock Hotel & Casino
2. Forty Mile Road, south of Hard Rock Hotel & Casino

Analysis Scenarios
This LOS analysis was conducted for the weekday (Tuesday - Thursday) and weekend (Friday or Saturday) PM peak-hours for the following scenarios:

A. Existing (2020) Conditions[+]
B. Opening Year (2021) Conditions[++]
C. Opening Year (2021) plus Proposed Project Conditions[+++]

[+] Established using a combination of on-the-ground traffic counts and Hard Rock Hotel & Casino patron data.
[++] Established by manually adding traffic and associated access modifications from known projects in the immediate project area to the Existing (2020) Conditions.
[+++] Trips associated with the Proposed Project manually added to the Opening Year Conditions.

Level of Service Analysis Criteria

Level of Service Definitions
Analysis of transportation facility significant environmental impacts is often based on the concept of Level of Service (LOS). The LOS of a facility is a quantitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual (HCM) 6th Edition*.

Intersection Analysis
The HCM includes procedures for analyzing both signalized and side-street stop controlled (SSSC) intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach or movement. **Table 1** presents intersection LOS definitions as defined in the HCM.

Roadway Segment Analysis
The HCM also includes procedures for analyzing multi-lane roadway segments. Levels of Service for these facilities are determined based on the density of the traffic stream. The LOS criteria per the Yuba County guidelines[2] for multi-lane segments are shown in **Table 2**.

[2] *Yuba County 2030 General Plan,* Yuba County, June 7, 2011.

Table 1 – Intersection Level of Service Criteria

Level of Service (LOS)	Signalized	Un-Signalized
	Average Control Delay (sec/veh)	Average Control Delay* (sec/veh)
A	≤ 10	≤ 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

Source: Highway Capacity Manual, 6th Edition
* Applied to the worst lane/lane group(s) for SSSC

Table 2 – Roadway Segment Level of Service Criteria

Roadway Classification	Maximum Peak Hour Volume				
	LOS A	LOS B	LOS C	LOS D	LOS E
Four-Lane Urban Arterial, Undivided	-	-	1,750	2,740	2,890

Source: Yuba County 2030 General Plan

Existing (2020) Conditions

Existing (2020) Conditions' traffic volumes were established by using a combination of Hard Rock Hotel & Casino patron data and on-the-ground counts. Due to the on-going global COVID-19 pandemic, traffic count data obtained after approximately mid-March 2020 is considered to be reflective of a hybrid set of factors in which travel behavior is modified and not reflective of "normal" conditions. Due to this dynamic, the following approach was applied to establish baseline conditions to which the Proposed Project's traffic was added and its impacts assessed:

- Hard Rock Hotel & Casino patron data was obtained for the pre-COVID months of January and February 2020, as well as the months of October and November 2020.
- On-the-ground traffic counts were collected in November 2020 and January 2021 for the study facilities' weekday and weekend PM peak-periods (4:00 – 6:00 PM weekdays, 4:00 – 8:00 PM weekends).
- The patron data, both pre-COVID and current, reveals that the Saturday PM peak-hour is the highest patron, and therefore highest traffic generating period. However, Friday PM peak-hour traffic counts are higher than Saturday PM peak-hour traffic counts. Accordingly, the more conservative Friday PM peak-hour was used as the basis for weekend PM peak-hour traffic volumes.
- As shown in **Table 3**, the average of October/November 2020 patron data (representative of on-going COVID conditions) demonstrate an approximate 12-percent reduction in site activity when compared to the pre-COVID patron data from January/February 2020. For the purposes of this evaluation, the current patron data is approximated to be 15-percent lower than normal, pre-COVID conditions.
- The traffic count data collected in November 2020 and January 2021 was manually adjusted by applying an adjustment factor of 1.15 (adding 15-percent) to reflect pre-COVID conditions for use in this study.

Table 3 – Pre-COVID and Current Patron Data

Time Period	Pre-COVID Average Hourly Patrons	Current Average Hourly Patrons	Percent of Pre-COVID Hourly Patrons
Friday, 4:00 p.m. - 8 p.m.	525	416	79.24%
Saturday, 4:00 p.m. - 8 p.m.	679	603	88.91%

The Existing (2020) Weekday PM and Weekend PM peak-hour turn movement volumes for the study intersections are illustrated in **Exhibit 4.** Traffic count data is provided in **Appendix A. Table 4** presents the peak-hour intersection operating conditions for Existing (2020) Conditions.

Table 4 – Existing (2020) Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Existing (2020)	
				Delay (sec)	LOS
1	Forty Mile Road @ SB SR-65 Ramps	SSSC*	Weekday PM	4.1 (11.5 EB)	B
			Weekend PM	3.3 (10.2 EB)	B
2	Forty Mile Road @ Hard Rock North Driveway	SSSC*	Weekday PM	3.9 (10.4 WB)	B
			Weekend PM	3.7 (10.7 WB)	B
3	Forty Mile Road @ Hard Rock South Driveway	SSSC*	Weekday PM	2.9 (10.6 WB)	B
			Weekend PM	2.8 (10.2 WB)	B
4	Forty Mile Road @ Plumas Arboga Road	SSSC*	Weekday PM	4.3 (13.4 WB)	B
			Weekend PM	4.3 (12.3 WB)	B
5	Forty Mile Rd @ NB SR-65 Ramps	SSSC*	Weekday PM	6.3 (20.4 WB)	C
			Weekend PM	8.5 (26.2 WB)	D
6	McGowan Parkway @ SB SR-65 Ramps	SSSC*	Weekday PM	2.5 (12.1 SB)	B
			Weekend PM	2.8 (11.7 SB)	B
7	McGowan Parkway @ NB SR-65 Ramps	SSSC*	Weekday PM	7.2 (14.3 NB)	B
			Weekend PM	8.4 (15.7 NB)	C
8	McGowan Parkway @ SB SR-70 Ramps	SSSC*	Weekday PM	5.1 (20.5 SB)	C
			Weekend PM	4.4 (17.5 SB)	C
9	McGowan Parkway @ NB SR-70 Ramps	SSSC*	Weekday PM	**49.4 (196.9 NB)**	**F**
			Weekend PM	**26.1 (130.1 NB)**	**F**
10	SR-65 @ Main Street (Wheatland)	Signal	Weekday PM	**201.5**	**F**
			Weekend PM	**193.8**	**F**
11	SR-65 @ First Street (Wheatland)	Signal	Weekday PM	33.5	C
			Weekend PM	35.5	D
12	SR-65 @ South Beale Road	SSSC*	Weekday PM	**10.4 (104.9 WB)**	**F**
			Weekend PM	**11.5 (166.8 WB)**	**F**
13	Forty Mile Road @ Gas Station Driveway	SSSC*	Weekday PM		
			Weekend PM		

*Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst approach's delay. The reported LOS corresponds to the worst approach.

Note: **Bold** represents unacceptable operations.

Only the weekend PM peak-hour conditions were considered for the roadway segment analysis, as they represent the worst-case conditions for project conditions. **Table 5** presents the roadway segment operating conditions for Existing (2020) Conditions.

Table 5 – Existing (2020) Roadway Segment Levels of Service

ID	Location	Facility Type	Analysis Direction	Existing (2020)	
				Peak-Hour Volume	LOS
1	Forty Mile Road, North of Hard Rock Hotel	Arterial (Urban) - 4 lanes	NB	271	C or better
			SB	262	C or better
2	Forty Mile Road, South of Hard Rock Hotel	Arterial (Urban) - 4 lanes	NB	252	C or better
			SB	143	C or better

Opening Year (2021) Conditions

Opening Year (2021) Conditions were established by adding the traffic and access modifications associated with the proposed gas station with convenience store and smoke shop, and additional driveway to the Existing (2020) Conditions. Although their peak-hours are not anticipated to necessarily align, the peak-hour traffic for the gas station development was identified and assumed to overlap with the PM peak-hour as established above. **Table 6** presents the trip generation for the gas station project.

Table 6 – Proposed Gas Station Project Trip Generation

Land Use (ITE Code)	Size (ksf)	Daily Trips	PM Peak-Hour of Generator				
			Total Trips	In		Out	
				%	Trips	%	Trips
Gasoline/Service Station (944)	3.000	3,609	358	50%	179	50%	179
Convienence Market (851)	0.500	381	27	51%	14	49%	13
Subtotal Trips		**3,990**	**385**		**193**		**192**
Internal Reduction from Hard Rock Hotel & Casino (Enter 25%, Exit 25%)		-998	-96		-48		-48
Net New Project Trips		**2,992**	**289**		**145**		**144**
Source: Trip Generation Manual, 10th Edition.							

The Opening Year (2021) Weekday PM and Weekend PM peak-hour turn movement volumes for the study intersections are illustrated in **Exhibit 5**. Analysis worksheets are provided in **Attachment B**. **Table 7** presents the peak-hour intersection operating conditions for Opening Year (2021) Conditions. **Table 8** presents the roadway segment operating conditions for this scenario.

Table 7 – Opening Year (2021) Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Opening Year (2021)	
				Delay (sec)	LOS
1	Forty Mile Road @ SB SR-65 Ramps	SSSC*	Weekday PM	4.5 (12.6 EB)	B
			Weekend PM	3.7 (11.1 EB)	B
2	Forty Mile Road @ Hard Rock North Driveway	SSSC*	Weekday PM	3.3 (11.3 WB)	B
			Weekend PM	3.1 (11.5 WB)	B
3	Forty Mile Road @ Hard Rock South Driveway	SSSC*	Weekday PM	3.6 (11.4 WB)	B
			Weekend PM	3.6 (10.9 WB)	B
4	Forty Mile Road @ Plumas Arboga Road	SSSC*	Weekday PM	4.0 (15.9 WB)	C
			Weekend PM	3.9 (14.3 WB)	B
5	Forty Mile Rd @ NB SR-65 Ramps	SSSC*	Weekday PM	**10.1 (35.8 WB)**	**E**
			Weekend PM	**15.6 (58.9 WB)**	**F**
6	McGowan Parkway @ SB SR-65 Ramps	SSSC*	Weekday PM	2.4 (12.3 SB)	B
			Weekend PM	2.7 (11.9 SB)	B
7	McGowan Parkway @ NB SR-65 Ramps	SSSC*	Weekday PM	7.6 (14.8 NB)	B
			Weekend PM	8.8 (16.2 NB)	C
8	McGowan Parkway @ SB SR-70 Ramps	SSSC*	Weekday PM	5.3 (21.6 SB)	C
			Weekend PM	4.5 (18.2 SB)	C
9	McGowan Parkway @ NB SR-70 Ramps	SSSC*	Weekday PM	**54.1 (215.9 NB)**	**F**
			Weekend PM	**28.4 (140.7 NB)**	**F**
10	SR-65 @ Main Street (Wheatland)	Signal	Weekday PM	**203.7**	**F**
			Weekend PM	**196.2**	**F**
11	SR-65 @ First Street (Wheatland)	Signal	Weekday PM	35.4	D
			Weekend PM	37.0	D
12	SR-65 @ South Beale Road	SSSC*	Weekday PM	**12.0 (118.9 WB)**	**F**
			Weekend PM	**13.0 (184.7 WB)**	**F**
13	Forty Mile Road @ Gas Station Driveway	SSSC*	Weekday PM	2.2 (5.6 SB)	A
			Weekend PM	2.2 (5.6 SB)	A

*Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst approach's delay. The reported LOS corresponds to the worst approach.

Note: **Bold** represents unacceptable operations.

Table 8 – Opening Year (2021) Roadway Segment Levels of Service

ID	Location	Facility Type	Analysis Direction	Opening Year (2021)	
				Peak-Hour Volume	LOS
1	Forty Mile Road, North of Hard Rock Hotel	Arterial (Urban) - 4 lanes	NB	364	C or better
			SB	341	C or better
2	Forty Mile Road, South of Hard Rock Hotel	Arterial (Urban) - 4 lanes	NB	316	C or better
			SB	194	C or better

Assessment of Proposed Project

Project Trip Generation

Trip generation rates for the Proposed Hard Rock Live Project were based on a previous study of a similar facility at the Cache Creek Casino[3]. The land use interaction between the casino and the event facilities at the Cache Creek Casino and the Proposed Project's interaction with the existing Hard Rock Hotel & Casino is anticipated to be similar.

The previous Cache Creek Casino study considered the top sixteen drawing events which occurred on Fridays or Saturdays over the course of a twelve-month period. Ticket counts for each event, along with person counts via automatic counters at the multiple entrances to the event facility, were used to estimate the proportion of patrons arriving from outside and within the casino resort. More specifically, for each day included in the sample, daily patron counts from the automatic counters were used to calculate an average total daily patron count on event days. Of the sixteen samples, the average number of attendees at the event center was then compared to the average facility patron count from a sampling of the most recent non-event days. If people attending the events did not participate in gaming activities during their same visit, the increase in the daily patron count on event days would be equal to the average attendance at the events considered. However, the actual difference in person counts visiting the facility as a whole on event days versus non-event days was several hundred people. Using this data, it was possible to reasonably conclude that approximately 70-percent of the event center patrons would have visited the facility even without an event. As a result, the remaining 30-percent of the patrons represent new trips that would not have been expected to occur without the event venue. In an effort to be consistent, 30-percent of the Proposed Hard Rock Live's patrons are considered to be new trips to the existing hotel and casino site.

Vehicle occupancy was also based on the previous Cache Creek Casino study. The previous Cache Creek Casino study indicated a vehicle occupancy of 2.60 passengers per vehicle. As stated above, 70-percent of the patrons visiting the Proposed Hard Rock Live Project are anticipated to have already been on-site with the remaining 30-percent of the patrons representing new trips. Applying the average auto occupancy of 2.60 people per vehicle translates to approximately 346 new trips generated (30% *3,000 / 2.60 = 346).

It was assumed that of the "new" trips generated by the Proposed Hard Rock Live Project, 25-percent of the patrons would be expected to have arrived during the PM peak-hour before the start of the event. The remaining patrons are assumed to arrive early, considerably earlier than show time, to gamble and eat/drink on site. Thus, 87 new trips (25% * 346 = 87) are considered to be generated by the 3,000-seat Proposed Project during the PM peak-hour.

Lastly, ten percent of these trips (10% * 87 = 9) were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits. This approach yields a total of 96 new peak hour trips (87 + 9 = 96) associated with the Proposed Project during the PM peak-hour. **Table 9** presents a summary of this trip generation data.

The existing facility's Traffic Impact Study[4] prepared for the Draft Environmental Impact Statement (DEIS) included trip generation calculations. **Table 10** provides a comparison of the existing Hard Rock Hotel & Casino trips and shows that adding the proposed event center trips to the existing facility trips would still remain under the DEIS trip threshold.

[3] *Cache Creek Casino Resort Event Center, Draft Impact Study*, Kimley-Horn and Associates, Inc., June 2010.
[4] *Enterprise Rancheria Casino-Hotel Traffic Impact Study*, Analytical Environmental Services, March 2003.

Table 9 – Proposed Project Trip Generation

Land Use	Size (seats)	Weekday PM Peak-Hour			Weekend PM Peak-Hour		
		Total Trips	In Trips	Out Trips	Total Trips	In Trips	Out Trips
Event Center	3,000	96	87	9	96	87	9
Net New Project Trips		**96**	**87**	**9**	**96**	**87**	**9**

Table 10 – Trip Generation Comparison

Source	Weekday PM Peak-Hour			Weekend PM Peak-Hour		
	Total Trips	In Trips	Out Trips	Total Trips	In Trips	Out Trips
DEIS, Alternative (A): Hotel & Casino	854	453	401	1,085	504	581
Existing Hard Rock Hotel & Casino	548	313	235	740	413	327
Proposed Event Center	96	87	9	96	87	9
Subtotal	644	400	244	836	500	336
Delta	**-210**	**-53**	**-157**	**-249**	**-4**	**-245**

Trip Distribution

The distribution of project traffic was developed based on existing project area roadway volumes, general knowledge of project area traffic patterns, and engineering judgement. Project trips were assigned to the study intersections and the surrounding roadway network according to these patterns.

Opening Year (2021) plus Project Conditions

Opening Year (2021) Plus Project Conditions were established by adding the traffic generated by the project to the Opening Year (2021) conditions. The Opening Year (2021) plus Project Weekday PM and Weekend PM peak-hour turn movement volumes for the study intersections are illustrated in **Exhibit 6**. Analysis worksheets are provided in **Attachment B**. **Table 11** presents the peak-hour intersection operating conditions for Opening Year (2021) plus Project Conditions. **Table 12** presents the roadway segment operating conditions for this scenario.

Impacts and Mitigation

Standards of Significance

Project impacts were determined by comparing conditions with the proposed project to those without the project. Impacts for intersections and roadway segments are created when traffic from the proposed project results in the LOS falling below a specific threshold. The Yuba County *General Plan*[2] specifies that LOS D shall be maintained on County roads in rural areas, thus LOS D was considered the threshold for this traffic evaluation.

Table 11 – Opening Year (2021) plus Project Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Opening Year (2021) plus Project	
				Delay (sec)	LOS
1	Forty Mile Road @ SB SR-65 Ramps	SSSC*	Weekday PM	5.0 (13.4 EB)	B
			Weekend PM	4.2 (11.8 EB)	B
2	Forty Mile Road @ Hard Rock North Driveway	SSSC*	Weekday PM	3.5 (11.6 WB)	B
			Weekend PM	3.5 (11.9 WB)	B
3	Forty Mile Road @ Hard Rock South Driveway	SSSC*	Weekday PM	3.6 (11.8 WB)	B
			Weekend PM	3.5 (11.0 WB)	B
4	Forty Mile Road @ Plumas Arboga Road	SSSC*	Weekday PM	4.0 (16.9 WB)	C
			Weekend PM	3.7 (15.0 WB)	C
5	Forty Mile Rd @ NB SR-65 Ramps	SSSC*	Weekday PM	**12.6 (44.9 WB)**	**E**
			Weekend PM	**20.9 (78.8 WB)**	**F**
6	McGowan Parkway @ SB SR-65 Ramps	SSSC*	Weekday PM	2.4 (12.3 SB)	B
			Weekend PM	2.7 (11.9 SB)	B
7	McGowan Parkway @ NB SR-65 Ramps	SSSC*	Weekday PM	7.6 (14.8 NB)	B
			Weekend PM	8.9 (16.3 NB)	C
8	McGowan Parkway @ SB SR-70 Ramps	SSSC*	Weekday PM	5.3 (21.9 SB)	C
			Weekend PM	4.5 (18.2 SB)	C
9	McGowan Parkway @ NB SR-70 Ramps	SSSC*	Weekday PM	**54.3 (214.8 NB)**	**F**
			Weekend PM	**28.6 (139.7 NB)**	**F**
10	SR-65 @ Main Street (Wheatland)	Signal	Weekday PM	**205.2**	**F**
			Weekend PM	**197.3**	**F**
11	SR-65 @ First Street (Wheatland)	Signal	Weekday PM	36.1	D
			Weekend PM	37.5	D
12	SR-65 @ South Beale Road	SSSC*	Weekday PM	**12.3 (120.1 WB)**	**F**
			Weekend PM	**13.4 (185.5 WB)**	**F**
13	Forty Mile Road @ Gas Station Driveway	SSSC*	Weekday PM	4.5 (9.5 WB)	A
			Weekend PM	4.5 (9.5 WB)	A

*Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst approach's delay. The reported LOS corresponds to the worst approach.

Note: **Bold** represents unacceptaable operations. Gray shading represents a project induced deficiency resulting in improvement recommendations.

Table 12 – Opening Year (2021) plus Project Roadway Segment Levels of Service

ID	Location	Facility Type	Analysis Direction	Opening Year (2021) plus Project	
				Peak-Hour Volume	LOS
1	Forty Mile Road, North of Hard Rock Hotel	Arterial (Urban) - 4 lanes	NB	399	C or better
			SB	630	C or better
2	Forty Mile Road, South of Hard Rock Hotel	Arterial (Urban) - 4 lanes	NB	553	C or better
			SB	213	C or better

Project Impacts and Mitigation

As reflected in **Table 11** and **Table 12**, the following intersections operate at substandard LOS with and without the project for the Opening Year (2021) Conditions:

- #5 (Forty Mile Road @ NB SR-65 Ramps)
- #9 (McGowan Parkway @ NB SR-70 Ramps)
- #10 (SR-65 @ Main Street)
- #12 (SR-65 @ South Beale Road))

The following is a summary of the recommended mitigations for each of these intersection operating deficiencies:

- #5 (Forty Mile Road @ NB SR-65 Ramps)
  This intersection operates sub standardly today and the addition of the Proposed Project adds traffic to this deficient condition. We have determined that this impact can be mitigated with the addition of All Way Stop Control (AWSC). The operations resulting from this mitigation are summarized in **Table 13**. It is important to note that this intersection's operating conditions are consistent with the EIS[1]. Because this intersection operates at substandard levels without the project, the project should contribute its proportionate share toward future improvements determined by an Intersection Control Evaluation (ICE) to be completed (by others).
- #9 (McGowan Parkway @ NB SR-70 Ramps)
  This intersection operates sub standardly today and the addition of the Proposed Project adds traffic to this deficient condition. We have determined that this impact can be mitigated with the addition of traffic signal control. The operations resulting from this mitigation are summarized in **Table 13**. It is important to note that this intersection's operating conditions are consistent with the EIS[1]. Because this intersection operates at substandard levels without the project, the project should contribute its proportionate share toward future improvements determined by an Intersection Control Evaluation (ICE) to be completed (by others).
- #10 (SR-65 @ Main Street (Wheatland))
  This intersection operates sub standardly today and the addition of the Proposed Project adds traffic to this deficient condition. It is important to note that this intersection's operating conditions are consistent with the EIS[1]. In fact, the EIS' stated mitigations have already been constructed. Because this intersection operates at substandard levels without the project, the project should contribute its proportionate share toward improvements through Wheatland, understood to be in the form of a Wheatland Bypass.
- #12 (SR-65 @ South Beale Road)
  This intersection operates sub standardly today and the addition of the Proposed Project adds traffic to this deficient condition. We have determined that this impact can be mitigated with the addition of traffic signal control. The operations resulting from this mitigation are summarized in **Table 13**. Because this intersection operates at substandard levels without the project, the project should contribute its proportionate share toward future improvements determined by an Intersection Control Evaluation (ICE) to be completed (by others).

Table 13 – Intersection Levels of Service (Summary)

ID	Intersection	Control	Peak Hour	Existing (2020)		Opening Year (2021)		Opening Year (2021) plus Project		OYPP (2021) Mitigation	
				Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Forty Mile Road @ SB SR-65 Ramps	SSSC*	Weekday PM	4.1 (11.5 EB)	B	4.5 (12.6 EB)	B	5.0 (13.4 EB)	B	5.0 (13.4 EB)	B
			Weekend PM	3.3 (10.2 EB)	B	3.7 (11.1 EB)	B	4.2 (11.8 EB)	B	4.2 (11.8 EB)	B
2	Forty Mile Road @ Hard Rock North Driveway	SSSC*	Weekday PM	3.9 (10.4 WB)	B	3.3 (11.3 WB)	B	3.5 (11.6 WB)	B	3.5 (11.6 WB)	B
			Weekend PM	3.7 (10.7 WB)	B	3.1 (11.5 WB)	B	3.5 (11.9 WB)	B	3.5 (11.9 WB)	B
3	Forty Mile Road @ Hard Rock South Driveway	SSSC*	Weekday PM	2.9 (10.6 WB)	B	3.6 (11.4 WB)	B	3.6 (11.8 WB)	B	3.6 (11.8 WB)	B
			Weekend PM	2.8 (10.2 WB)	B	3.6 (10.9 WB)	B	3.5 (11.0 WB)	B	3.5 (11.0 WB)	B
4	Forty Mile Road @ Plumas Arboga Road	SSSC*	Weekday PM	4.3 (13.4 WB)	B	4.0 (15.9 WB)	C	4.0 (16.9 WB)	C	4.0 (16.9 WB)	C
			Weekend PM	4.3 (12.3 WB)	B	3.9 (14.3 WB)	B	3.7 (15.0 WB)	C	3.7 (15.0 WB)	C
5	Forty Mile Rd @ NB SR-65 Ramps	SSSC*	Weekday PM	6.3 (20.4 WB)	C	**10.1 (35.8 WB)**	**E**	**12.6 (44.9 WB)**	**E**	12.7	B
			Weekend PM	8.5 (26.2 WB)	D	**15.6 (58.9 WB)**	**F**	**20.9 (78.8 WB)**	**F**	14.0	B
6	McGowan Parkway @ SB SR-65 Ramps	SSSC*	Weekday PM	2.5 (12.1 SB)	B	2.4 (12.3 SB)	B	2.4 (12.3 SB)	B	2.4 (12.3 SB)	B
			Weekend PM	2.8 (11.7 SB)	B	2.7 (11.9 SB)	B	2.7 (11.9 SB)	B	2.7 (11.9 SB)	B
7	McGowan Parkway @ NB SR-65 Ramps	SSSC*	Weekday PM	7.2 (14.3 NB)	B	7.6 (14.8 NB)	B	7.6 (14.8 NB)	B	7.6 (14.8 NB)	B
			Weekend PM	8.4 (15.7 NB)	C	8.8 (16.2 NB)	C	8.9 (16.3 NB)	C	8.9 (16.3 NB)	C
8	McGowan Parkway @ SB SR-70 Ramps	SSSC*	Weekday PM	5.1 (20.5 SB)	C	5.3 (21.6 SB)	C	5.3 (21.9 SB)	C	5.3 (21.9 SB)	C
			Weekend PM	4.4 (17.5 SB)	C	4.5 (18.2 SB)	C	4.5 (18.2 SB)	C	4.5 (18.2 SB)	C
9	McGowan Parkway @ NB SR-70 Ramps	SSSC*	Weekday PM	**49.4 (196.9 NB)**	**F**	**54.1 (215.9 NB)**	**F**	**54.3 (214.8 NB)**	**F**	8.7	A
			Weekend PM	**26.1 (130.1 NB)**	**F**	**28.4 (140.7 NB)**	**F**	**28.6 (139.7 NB)**	**F**	7.9	A
10	SR-65 @ Main Street (Wheatland)	Signal	Weekday PM	**201.5**	**F**	**203.7**	**F**	**205.2**	**F**	205.2	**F**
			Weekend PM	**193.8**	**F**	**196.2**	**F**	**197.3**	**F**	197.3	**F**
11	SR-65 @ First Street (Wheatland)	Signal	Weekday PM	33.5	C	35.4	D	36.1	D	36.1	D
			Weekend PM	35.5	D	37.0	D	37.5	D	37.5	D
12	SR-65 @ South Beale Road	SSSC*	Weekday PM	**10.4 (104.9 WB)**	**F**	**12.0 (118.9 WB)**	**F**	**12.3 (120.1 WB)**	**F**	4.4	A
			Weekend PM	**11.5 (166.8 WB)**	**F**	**13.0 (184.7 WB)**	**F**	**13.4 (185.5 WB)**	**F**	5.0	A
13	Forty Mile Road @ Gas Station Driveway	SSSC*	Weekday PM			2.2 (5.6 SB)	A	4.5 (9.5 WB)	A	4.5 (9.5 WB)	A
			Weekend PM			2.2 (5.6 SB)	A	4.5 (9.5 WB)	A	4.5 (9.5 WB)	A

*Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst approach's delay. The reported LOS corresponds to the worst approach.

Note: **Bold** represents unacceptaable operations. Gray shading represents a project induced deficiency resulting in improvement recommendations.

Additional Considerations

Peak-Hour Signal Warrant

A planning level assessment of the need for traffic signalization was performed for Intersection #9 (McGowan Parkway @ NB SR-70 Ramps) and Intersection #12 (SR-65 @ South Beale Road). This evaluation was performed consistently with the peak-hour warrant methodologies noted in Section 4C of the *California Manual on Uniform Traffic Control Devices (CMUTCD).* A summary of the peak-hour warrant results is presented in **Table 14**.

Table 14 – Traffic Signal Peak-Hour Warrant Analysis Results

#	Intersection	Analysis Scenario		
		Existing (2020)	Opening Year (2021)	Opening Year (2021) plus PP
9	McGowan Parkway @ NB SR-70 Ramps	No / No	No / No	No / No
12	SR-65 @ South Beale Road	Yes / Yes	Yes / Yes	Yes / Yes

Results are presented in Weekday / Weekend format. Note: Peak-hour warrant is satisfied if Condition A or B is satisfied.

As shown in **Table 14**, the addition of the proposed project does not result in the peak-hour signal warrant being satisfied. It should be noted that Intersection #9 (McGowan Parkway at NB SR-70 Ramps) was previously indicated for mitigation with traffic signal control. Because the peak-hour signal warrant is not satisfied, a more comprehensive warrant analysis should be completed. Detailed results of this analysis are presented in **Attachment C**.

Queuing Evaluation

For the queuing analysis, the anticipated vehicle queues for critical movements at certain intersections were evaluated based on results from Synchro traffic analysis software. The calculated vehicle queues were compared to actual or anticipated vehicle storage/segment lengths. Results of the queuing evaluation are presented in **Table 15**. Analysis sheets that include the anticipated vehicle queues are presented in **Attachment B**. As presented in **Table 15**, the addition of the proposed project does not add more than one vehicle length to the queue lengths at these locations.

Table 15 – Intersection Queuing Evaluation Results for Select Locations

Intersection		Movement	Available Storage (ft)	95th % Queue (ft)					
				Existing (2020)		Opening Year (2021)		Opening Year (2021) plus Project	
				Weekday PM Peak-Hour	Weekend PM Peak-Hour	Weekday PM Peak-Hour	Weekend PM Peak-Hour	Weekday PM Peak-Hour	Weekend PM Peak-Hour
2	Forty Mile Road @ Hard Rock North Driveway	SBL	125	25	25	25	25	25	25
3	Forty Mile Road @ Hard Rock South Driveway	SBL	125	25	25	25	25	25	25
5	Forty Mile Road @ NB SR-65 Ramps	WB LTR	1,550	50	50	75	125	125	175
		NBL	1,200	25	25	25	50	25	50
9	McGowan Parkway @ NB SR-70 Ramps	NB LTR	1,700	375	225	400	250	400	250
		EBL	375	25	25	25	25	25	25
13	Forty Mile Road @ Gas Station Driveway	SBL	125	-	-	25	25	25	25
		WB LR	150	-	-	0	0	25	25

Conclusions

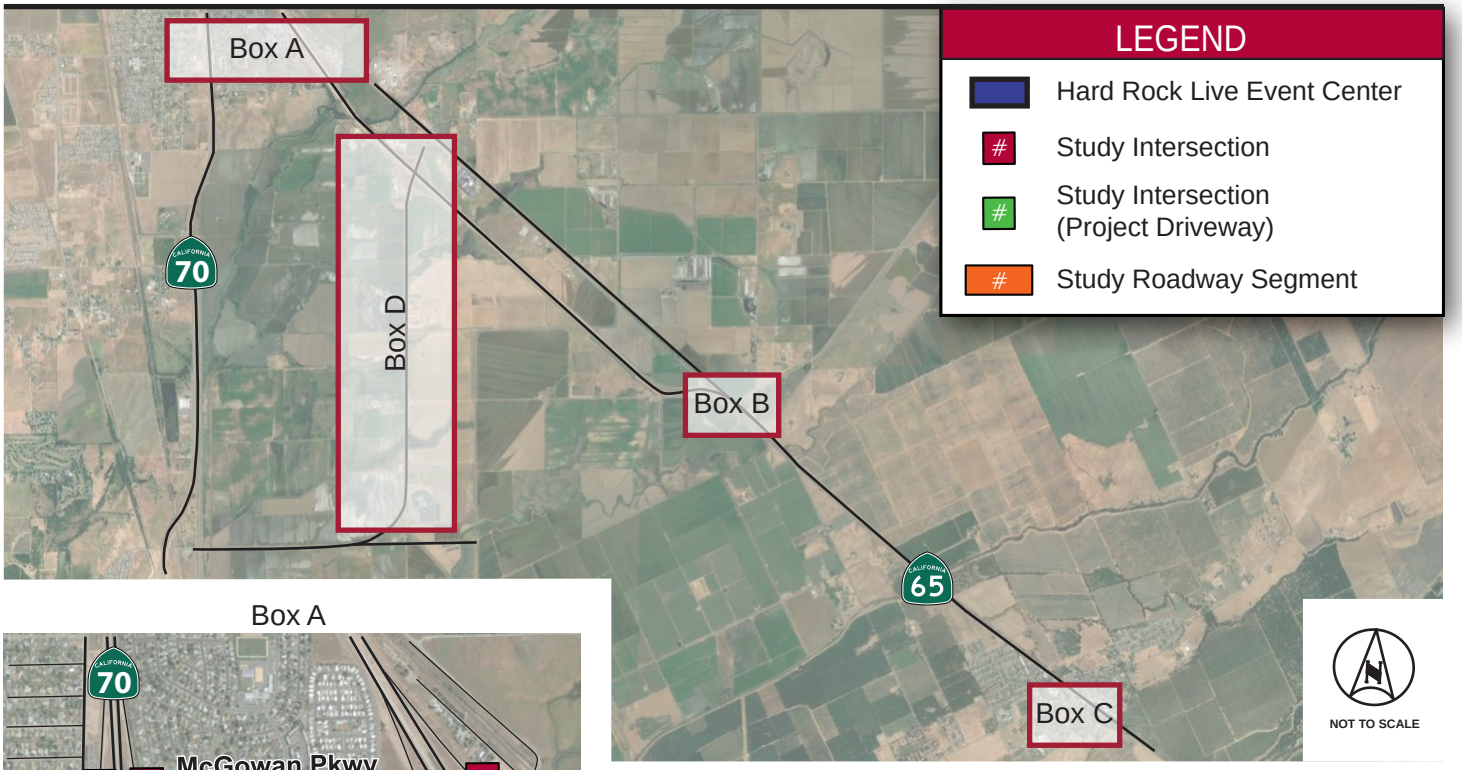
The following are the primary conclusions based on the analyses discussed herein:

- Current patron data indicates that the persistent COVID-19 pandemic conditions equate to an approximate 15-percent reduction in site traffic at the time of this study.
- The addition of the Proposed Hard Rock Live Project is estimated to generate 87 entering and 9 exiting trips at the project site during both the Weekday and Weekend PM peak-hours.
- The following improvements are recommended:
    - #5 (Forty Mile Road @ NB SR-65 Ramps) – proportionate share contribution towards future improvements
    - #9 (McGowan Parkway @ NB SR-70 Ramps) – proportionate share contribution towards future improvements
    - #10 (SR-65 @ Main Street) – proportionate share contribution toward improvements through Wheatland, understood to be in the form of a Wheatland bypass
    - #12 (SR-65 @ South Beale Road) – proportionate share contribution towards future improvement

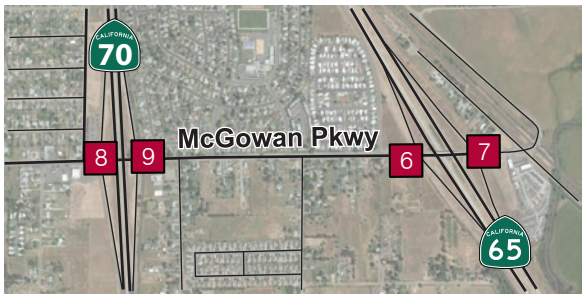
Attachments

Exhibit 1 – Vicinity Map
Exhibit 2 – Project Site Plan
Exhibit 3 – Study Intersections, Traffic Control, and Lane Geometries
Exhibit 4 – Existing (2020) Weekday and Weekend PM Peak-Hour Traffic Volumes
Exhibit 5 – Opening Year (2021) Weekday and Weekend PM Peak-Hour Traffic Volumes
Exhibit 6 – Opening Year (2021) Plus Project Weekday and Weekend PM Peak-Hour Traffic Volumes

Attachment A – Traffic Count Data Sheets
Attachment B – Analysis Worksheets
Attachment C – Traffic Signal Peak-Hour Warrant Analysis



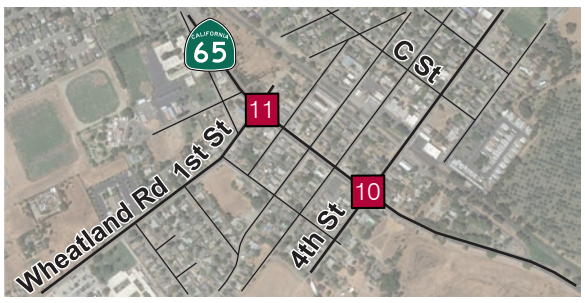
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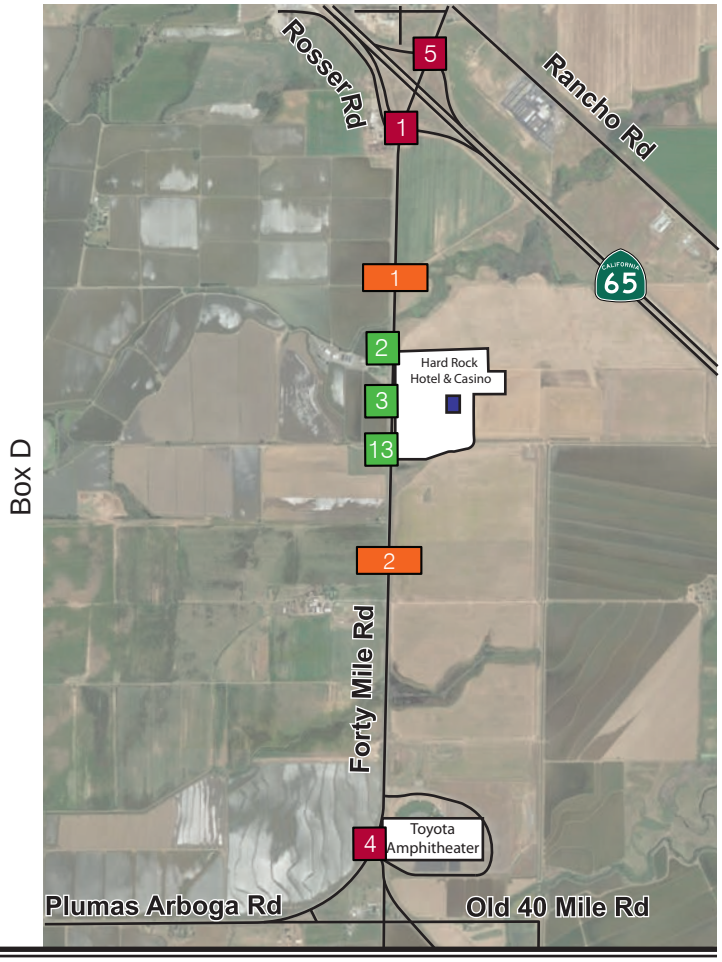


Box B



Box C

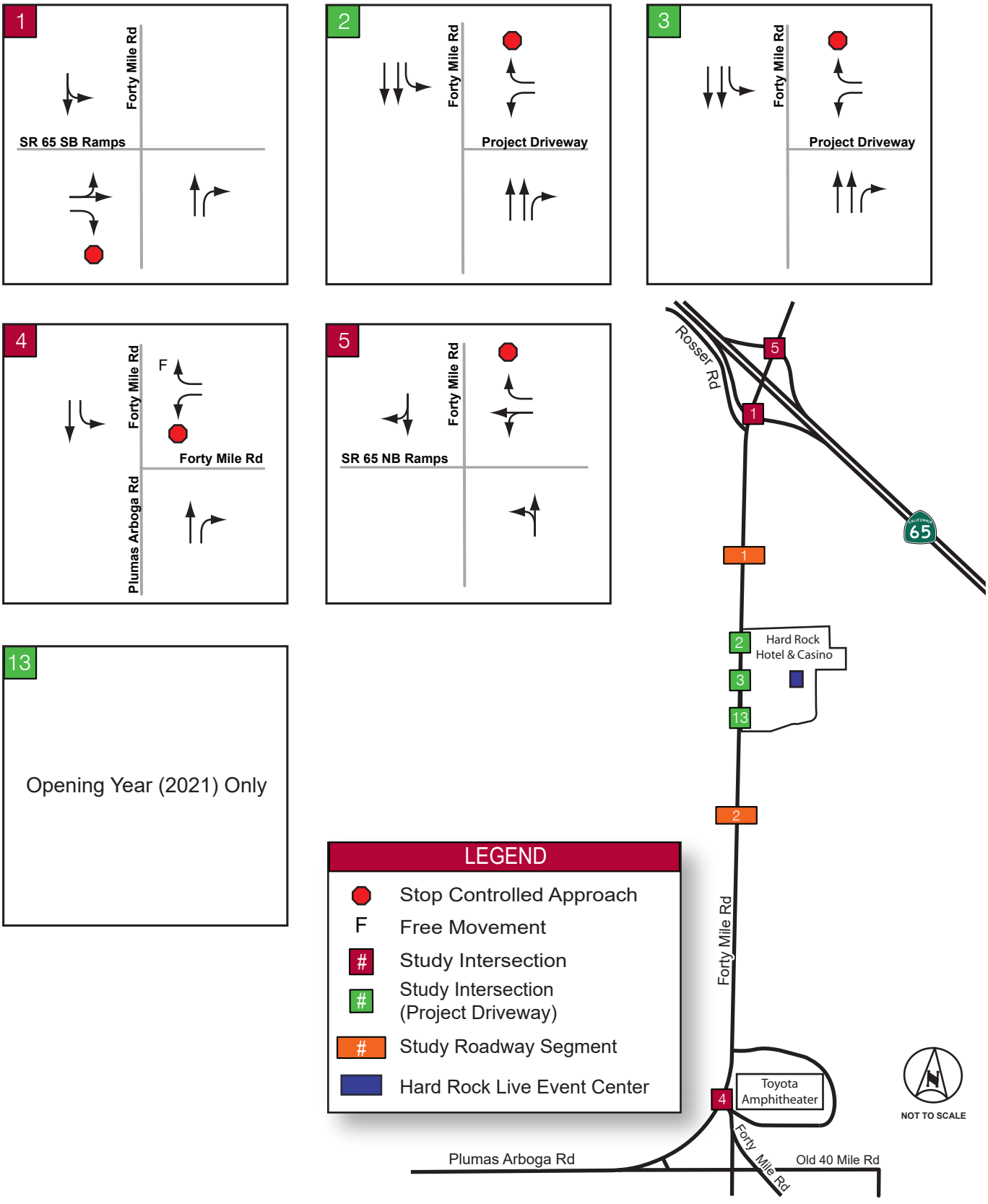


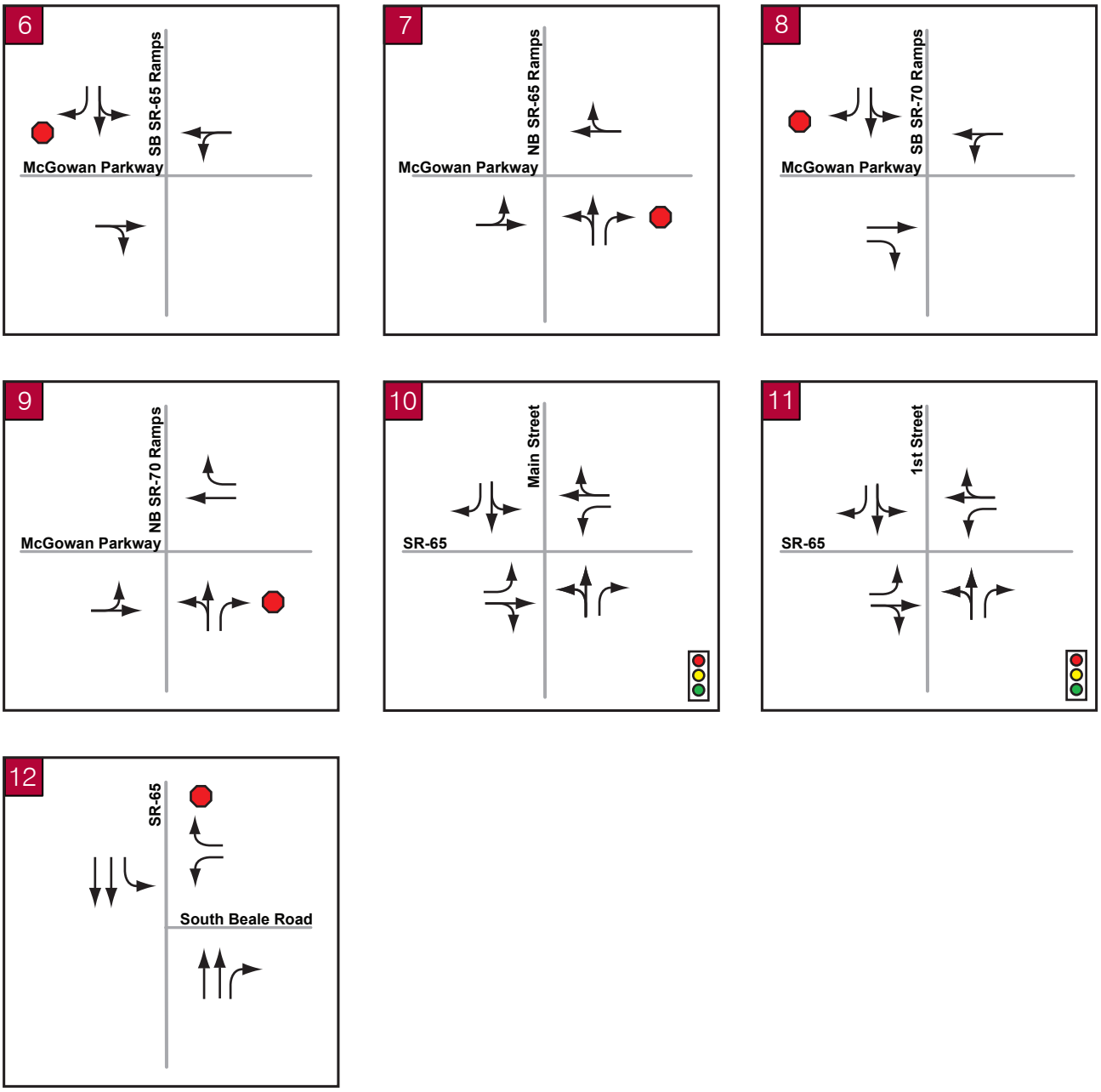


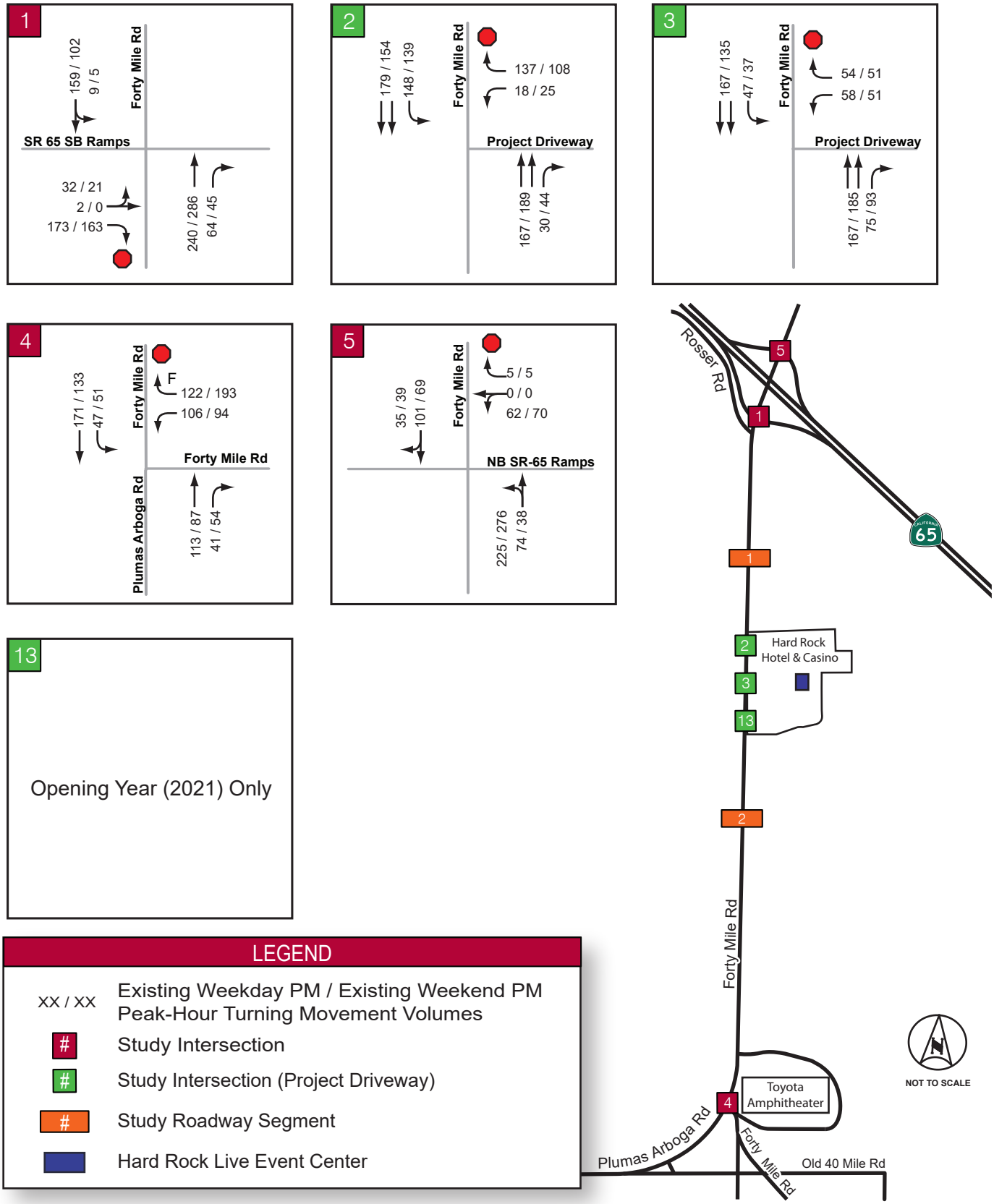
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Exhibit 1
Proposed Project Vicinity Map

[To Be Provided]


1
Forty Mile Rd
SR 65 SB Ramps
2
Forty Mile Rd
Project Driveway
3
Forty Mile Rd
Project Driveway
4
F
Forty Mile Rd
Forty Mile Rd
Plumas Arboga Rd
5
Forty Mile Rd
SR 65 NB Ramps
13
Opening Year (2021) Only
Rosser Rd
5
1
65
1
2
Hard Rock
Hotel & Casino
3
13
2
Forty Mile Rd
LEGEND
Stop Controlled Approach
F
Free Movement
#
Study Intersection
#
Study Intersection
(Project Driveway)
#
Study Roadway Segment
Hard Rock Live Event Center
4
Toyota
Amphitheater
NOT TO SCALE
Plumas Arboga Rd
Forty Mile Rd
Old 40 Mile Rd

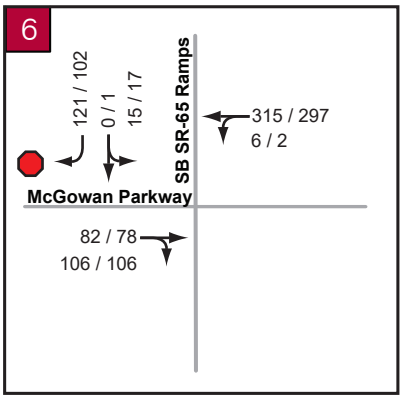

6
SB SR-65 Ramps
McGowan Parkway
7
NB SR-65 Ramps
McGowan Parkway
8
SB SR-70 Ramps
McGowan Parkway
9
NB SR-70 Ramps
McGowan Parkway
10
Main Street
SR-65
11
1st Street
SR-65
12
SR-65
South Beale Road
LEGEND
Stop Controlled Approach
Signalized Intersection

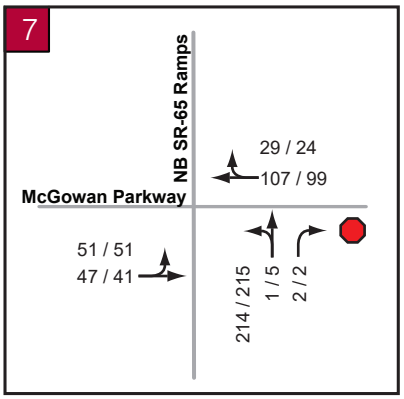


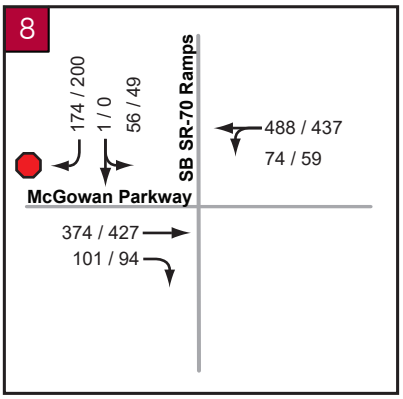
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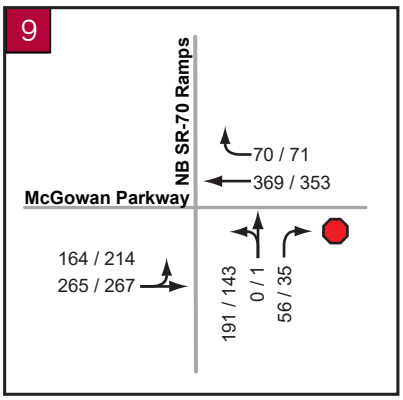
Exhibit 4a

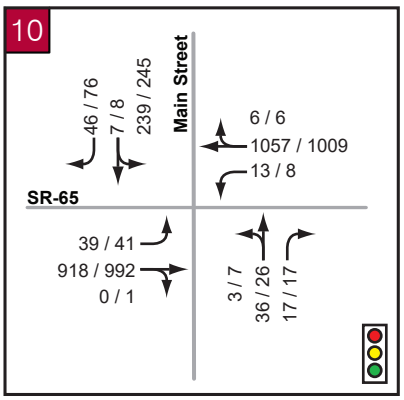
Existing Weekday + Weekend PM Peak-Hour Traffic Volumes

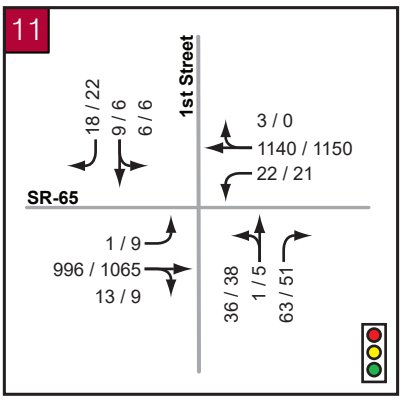


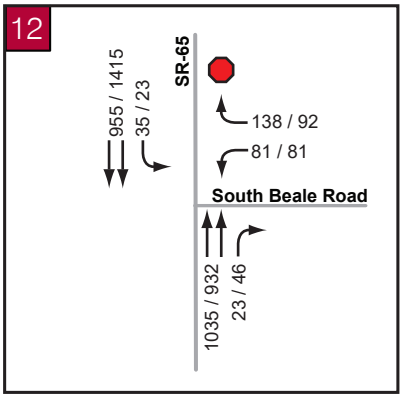




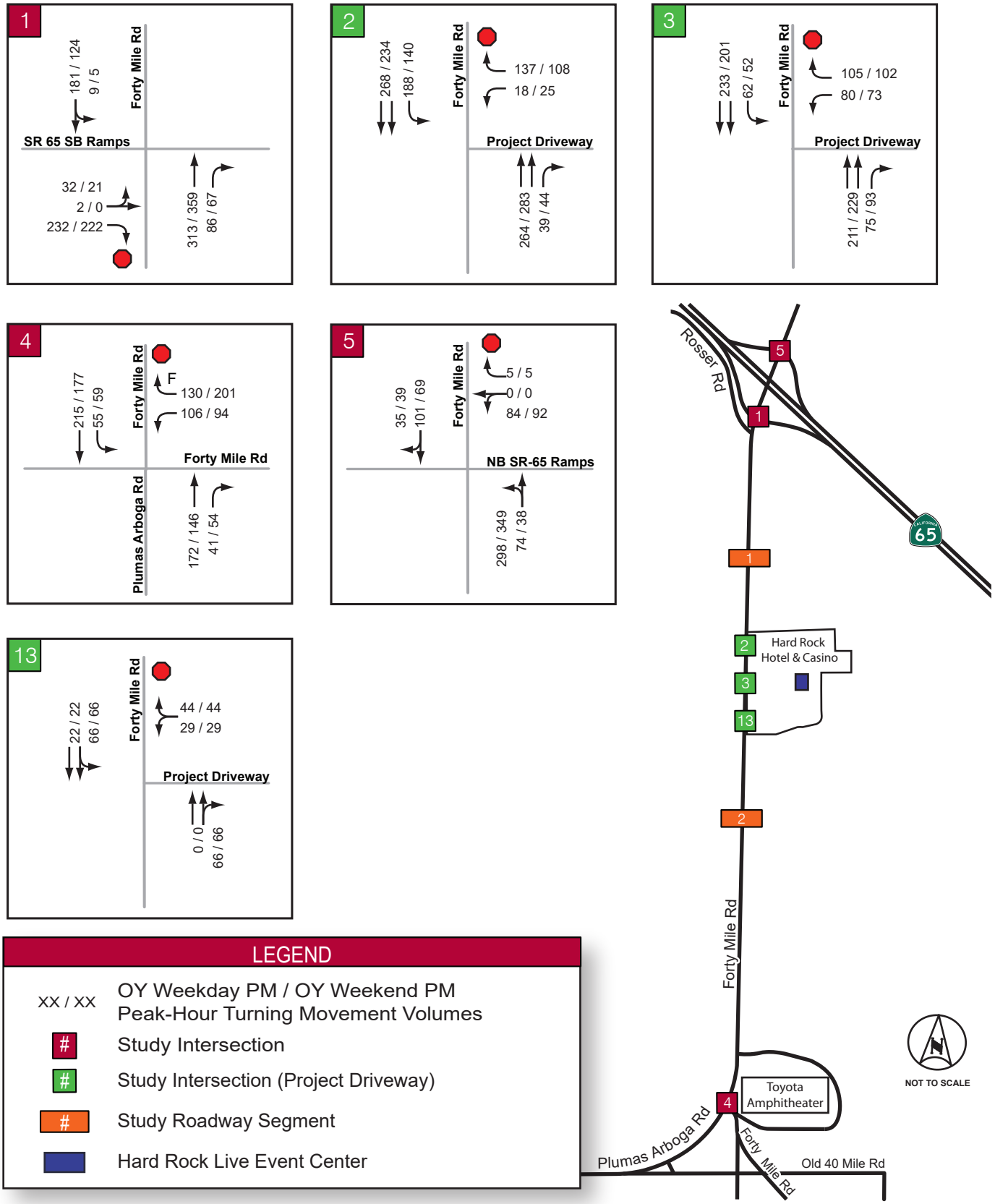


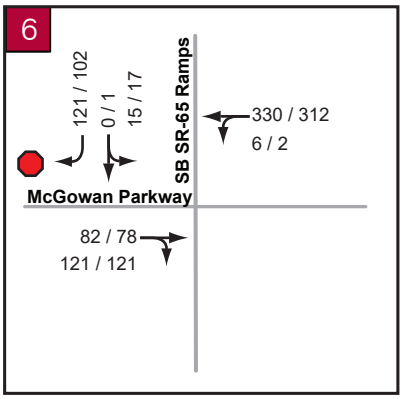


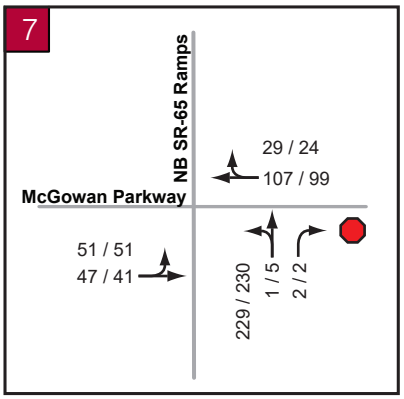


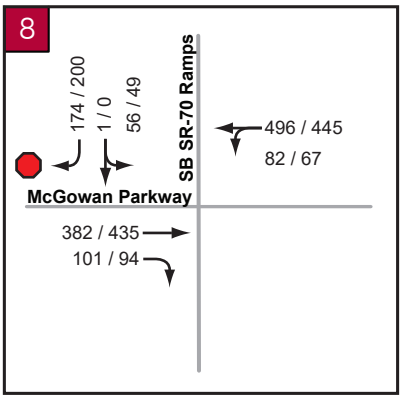


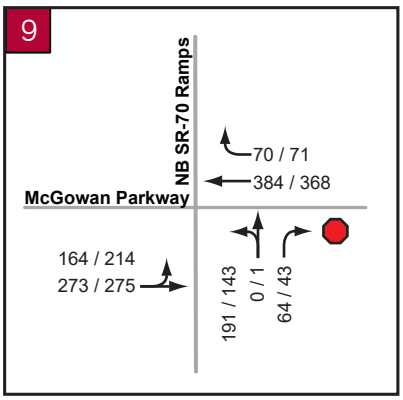
LEGEND	
XX / XX	Existing Weekday PM / Existing Weekend PM Peak-Hour Turning Movement Volumes

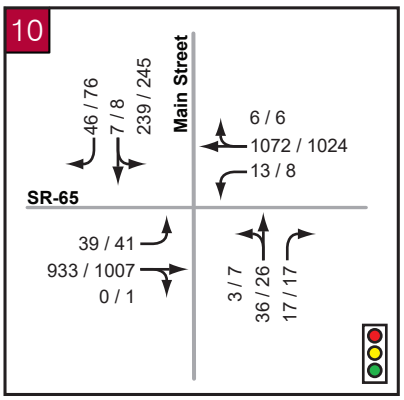

1
Forty Mile Rd
181 / 124
9 / 5
SR 65 SB Ramps
32 / 21
2 / 0
232 / 222
313 / 359
86 / 67
2
268 / 234
188 / 140
Forty Mile Rd
137 / 108
18 / 25
Project Driveway
264 / 283
39 / 44
3
233 / 201
62 / 52
Forty Mile Rd
105 / 102
80 / 73
Project Driveway
211 / 229
75 / 93
4
215 / 177
55 / 59
Forty Mile Rd
F
130 / 201
106 / 94
Forty Mile Rd
Plumas Arboga Rd
172 / 146
41 / 54
5
35 / 39
101 / 69
Forty Mile Rd
5 / 5
0 / 0
84 / 92
NB SR-65 Ramps
298 / 349
74 / 38
13
22 / 22
66 / 66
Forty Mile Rd
44 / 44
29 / 29
Project Driveway
0 / 0
66 / 66
Rosser Rd
5
1
65
1
2
Hard Rock
Hotel & Casino
3
13
2
Forty Mile Rd
4
Toyota
Amphitheater
Plumas Arboga Rd
Forty Mile Rd
Old 40 Mile Rd
NOT TO SCALE
LEGEND
XX / XX
OY Weekday PM / OY Weekend PM
Peak-Hour Turning Movement Volumes
#
Study Intersection
#
Study Intersection (Project Driveway)
#
Study Roadway Segment
Hard Rock Live Event Center

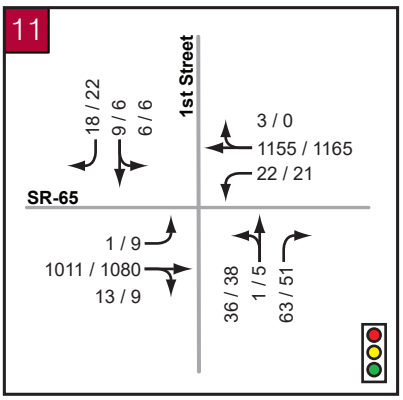


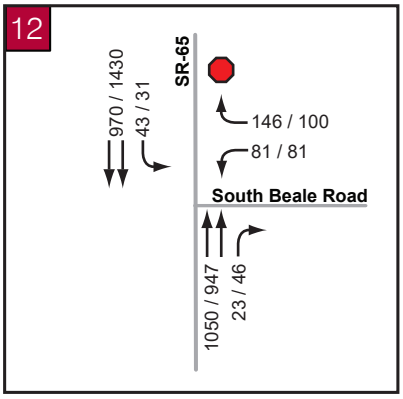




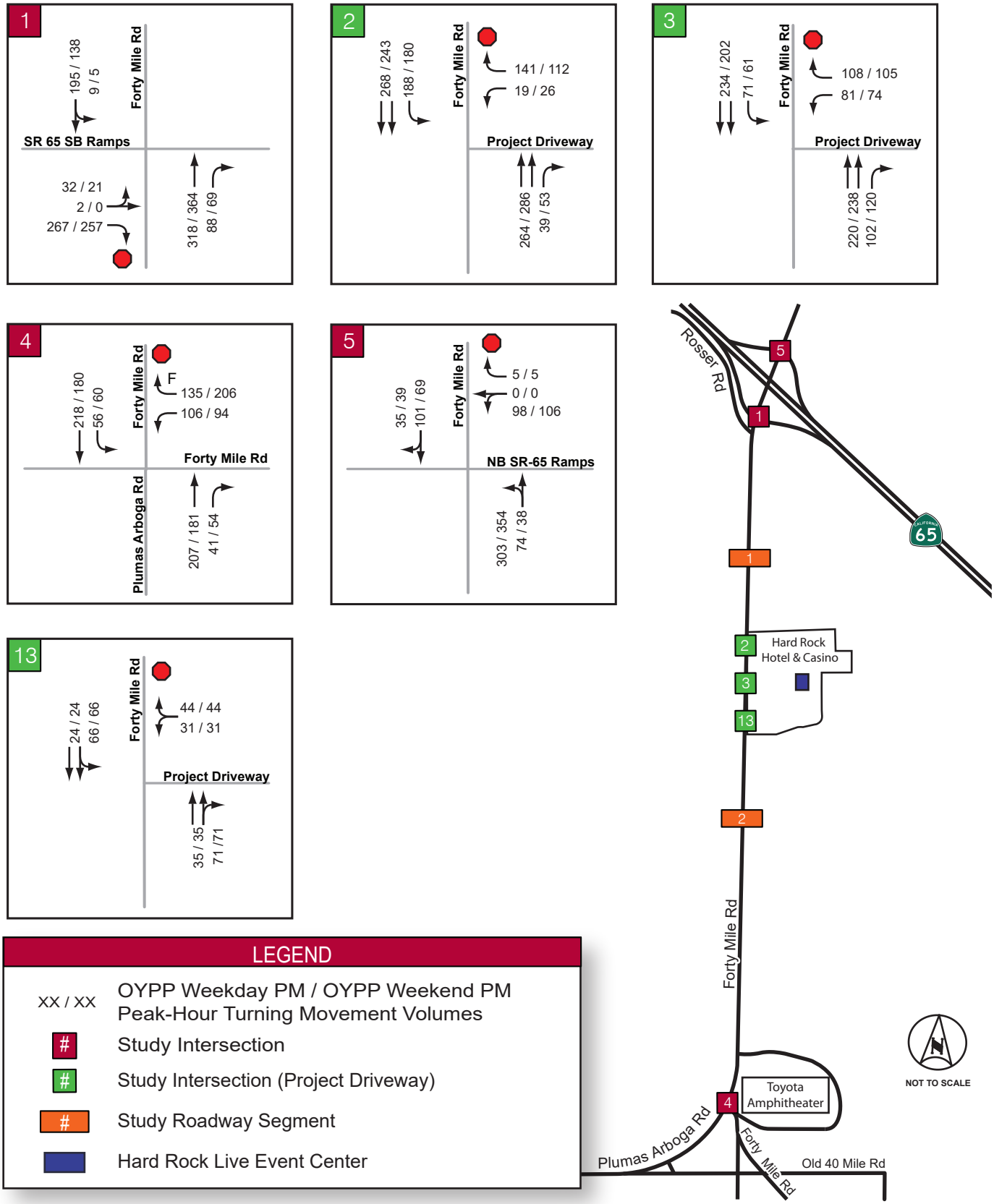


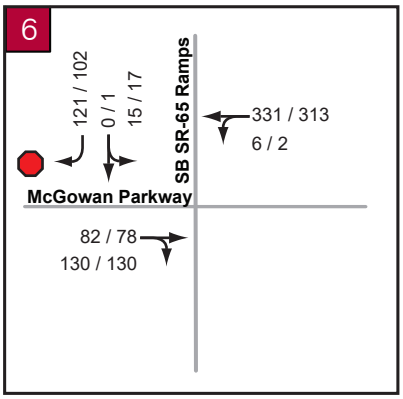


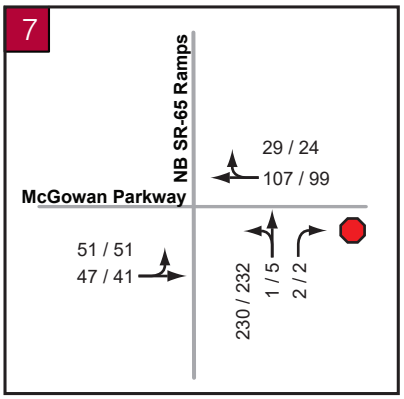


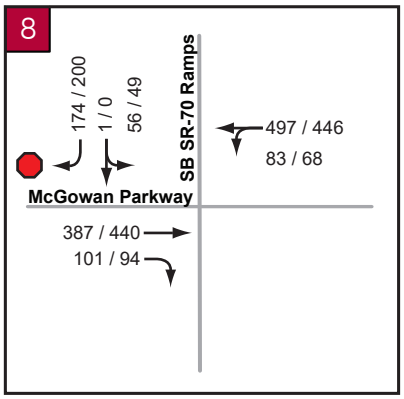


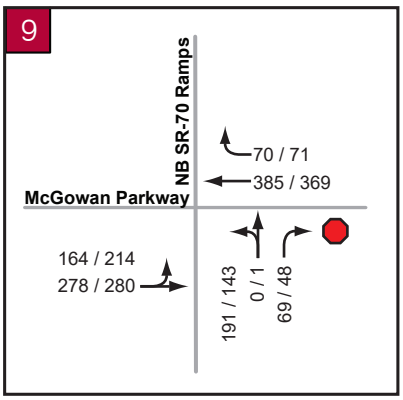
LEGEND	
xx / xx	OY Weekday PM / OY Weekend PM Peak-Hour Turning Movement Volumes

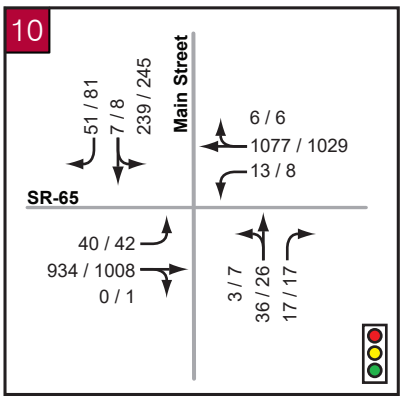

1
Forty Mile Rd
195 / 138
9 / 5
SR 65 SB Ramps
32 / 21
2 / 0
267 / 257
318 / 364
88 / 69
2
268 / 243
188 / 180
Forty Mile Rd
141 / 112
19 / 26
Project Driveway
264 / 286
39 / 53
3
234 / 202
71 / 61
Forty Mile Rd
108 / 105
81 / 74
Project Driveway
220 / 238
102 / 120
4
218 / 180
56 / 60
Forty Mile Rd
F
135 / 206
106 / 94
Forty Mile Rd
Plumas Arboga Rd
207 / 181
41 / 54
5
35 / 39
101 / 69
Forty Mile Rd
5 / 5
0 / 0
98 / 106
NB SR-65 Ramps
303 / 354
74 / 38
13
24 / 24
66 / 66
Forty Mile Rd
44 / 44
31 / 31
Project Driveway
35 / 35
71 / 71
Rosser Rd
5
1
65
1
2
Hard Rock
Hotel & Casino
3
13
2
Forty Mile Rd
4
Toyota
Amphitheater
Plumas Arboga Rd
Forty Mile Rd
Old 40 Mile Rd
NOT TO SCALE
LEGEND
XX / XX
OYPP Weekday PM / OYPP Weekend PM
Peak-Hour Turning Movement Volumes
#
Study Intersection
#
Study Intersection (Project Driveway)
#
Study Roadway Segment
Hard Rock Live Event Center

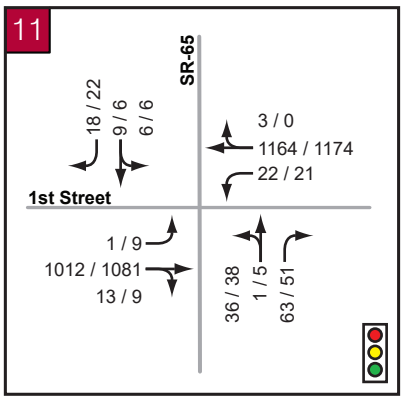


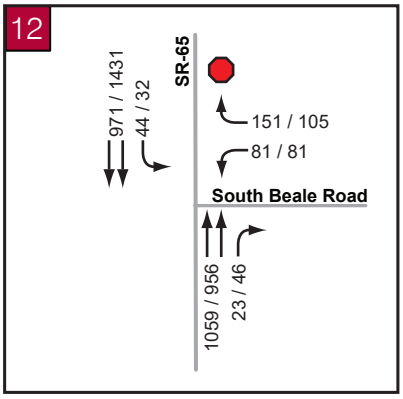












LEGEND	
XX / XX	OYPP Weekday PM / OYPP Weekend PM Peak-Hour Turning Movement Volumes

Attachment A
Traffic Count Data Sheets

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd & SR-65 EB Ramps
City: Wheatland
Control: 1-Way Stop (EB)

Project ID: 20-070200-001
Date: 11/20/2020

Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				SR-65 EB Ramps				SR-65 EB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	0	0.5	0.5	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	63	15	0	2	22	0	0	6	0	31	0	0	0	0	0	139
4:15 PM	0	64	8	0	1	18	0	0	3	0	33	0	0	0	0	0	127
4:30 PM	0	70	8	0	1	24	0	0	5	0	32	0	0	0	0	0	140
4:45 PM	0	52	8	0	0	25	0	0	4	0	46	0	0	0	0	0	135
5:00 PM	0	58	12	0	0	20	0	0	5	0	26	0	0	0	0	0	121
5:15 PM	0	59	13	0	0	29	0	0	1	0	36	0	0	0	0	0	138
5:30 PM	0	52	8	0	1	25	0	0	0	0	50	0	0	0	0	0	136
5:45 PM	0	48	7	0	1	26	0	0	1	0	44	0	0	0	0	0	127
6:00 PM	0	50	14	0	1	22	0	0	0	0	35	0	0	0	0	0	122
6:15 PM	0	41	14	0	0	7	0	0	1	0	30	0	0	0	0	0	93
6:30 PM	0	46	10	0	1	14	0	0	2	0	47	0	0	0	0	0	120
6:45 PM	0	35	9	0	1	19	0	0	1	0	32	0	0	0	0	0	97
7:00 PM	0	35	6	0	1	16	0	0	2	0	35	0	0	0	0	0	95
7:15 PM	0	30	11	0	0	11	0	0	1	0	27	0	0	0	0	0	80
7:30 PM	0	32	12	0	1	13	0	0	1	0	39	0	0	0	0	0	98
7:45 PM	0	32	9	0	0	17	0	0	4	0	30	0	0	0	0	0	92
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	767	164	0	11	308	0	0	37	0	573	0	0	0	0	0	1860
APPROACH %'s :	0.00%	82.38%	17.62%	0.00%	3.45%	96.55%	0.00%	0.00%	6.07%	0.00%	93.93%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	249	39	0	4	89	0	0	18	0	142	0	0	0	0	0	541
PEAK HR FACTOR :	0.000	0.889	0.650	0.000	0.500	0.890	0.000	0.000	0.750	0.000	0.772	0.000	0.000	0.000	0.000	0.000	0.966
		0.923				0.930				0.800							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd & SR-65 EB Ramps
City: Wheatland
Control: 1-Way Stop (EB)

Project ID: 20-070200-001
Date: 11/21/2020

Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				SR-65 EB Ramps				SR-65 EB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	0	0.5	0.5	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	46	16	0	0	22	0	0	1	1	35	0	0	0	0	0	121
4:15 PM	0	38	20	0	0	14	0	0	1	0	52	0	0	0	0	0	125
4:30 PM	0	46	11	0	0	19	0	0	1	0	37	0	0	0	0	0	114
4:45 PM	0	42	11	0	0	24	0	0	0	0	31	0	0	0	0	0	108
5:00 PM	0	34	11	0	1	23	0	0	0	0	36	0	0	0	0	0	105
5:15 PM	0	45	21	0	0	18	0	0	3	0	26	0	0	0	0	0	113
5:30 PM	0	47	20	0	0	23	0	0	2	0	36	0	0	0	0	0	128
5:45 PM	0	42	13	0	3	22	0	0	3	0	48	0	0	0	0	0	131
6:00 PM	0	34	17	0	0	15	0	0	0	0	42	0	0	0	0	0	108
6:15 PM	0	24	18	0	0	20	0	0	3	0	35	0	0	0	0	0	100
6:30 PM	0	44	7	0	0	18	0	0	0	0	46	0	0	0	0	0	115
6:45 PM	0	34	13	0	0	18	0	0	1	0	45	0	0	0	0	0	111
7:00 PM	0	43	13	0	0	8	0	0	2	0	29	0	0	0	0	0	95
7:15 PM	0	33	17	0	0	16	0	0	1	0	33	0	0	0	0	0	100
7:30 PM	0	24	7	0	0	21	0	0	1	0	36	0	0	0	0	0	89
7:45 PM	0	35	11	0	1	14	0	0	1	0	38	0	0	0	0	0	100
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	611	226	0	5	295	0	0	20	1	605	0	0	0	0	0	1763
APPROACH %'s :	0.00%	73.00%	27.00%	0.00%	1.67%	98.33%	0.00%	0.00%	3.19%	0.16%	96.65%	0.00%					
PEAK HR :	**05:15 PM - 06:15 PM**																TOTAL
PEAK HR VOL :	0	168	71	0	3	78	0	0	8	0	152	0	0	0	0	0	480
PEAK HR FACTOR :	0.000	0.894	0.845	0.000	0.250	0.848	0.000	0.000	0.667	0.000	0.792	0.000	0.000	0.000	0.000	0.000	0.916
		0.892				0.810				0.784							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd & Hard Rock North Dwy
City: Wheatland
Control: 1-Way Stop (WB)

Project ID: 20-070200-002
Date: 11/20/2020

Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				Hard Rock North Dwy				Hard Rock North Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	1	2	0	0	0	0	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	48	1	0	24	29	0	0	0	0	0	0	5	0	30	0	137
4:15 PM	0	49	3	0	19	31	0	0	0	0	0	0	4	0	14	0	120
4:30 PM	0	64	3	0	27	26	0	0	0	0	0	0	8	0	15	0	143
4:45 PM	0	34	2	0	28	42	0	0	0	0	0	0	5	0	21	0	132
5:00 PM	0	45	5	0	17	33	0	0	0	0	0	0	3	0	28	0	131
5:15 PM	0	41	8	0	23	37	0	1	0	0	0	0	5	0	32	0	147
5:30 PM	0	48	15	0	47	30	0	0	0	0	0	0	1	0	11	0	152
5:45 PM	0	30	10	0	34	34	0	0	0	0	0	0	13	0	23	0	144
6:00 PM	0	29	1	0	31	27	0	0	0	0	0	0	4	0	27	0	119
6:15 PM	0	33	2	0	17	17	0	0	0	0	0	0	7	0	25	0	101
6:30 PM	0	20	4	0	44	21	0	0	0	0	0	0	3	0	31	0	123
6:45 PM	0	24	3	0	27	24	0	0	0	0	0	0	3	0	18	0	99
7:00 PM	0	11	1	0	40	13	0	0	0	0	0	0	4	0	29	0	98
7:15 PM	0	21	2	0	23	9	0	0	0	0	0	0	2	0	23	0	80
7:30 PM	0	17	11	0	38	15	0	0	0	0	0	0	3	0	28	0	112
7:45 PM	0	18	3	0	35	13	0	0	0	0	0	0	3	0	24	0	96
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	532	74	0	474	401	0	1	0	0	0	0	73	0	379	0	1934
APPROACH %'s :	0.00%	87.79%	12.21%	0.00%	54.11%	45.78%	0.00%	0.11%					16.15%	0.00%	83.85%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	164	38	0	121	134	0	1	0	0	0	0	22	0	94	0	574
PEAK HR FACTOR :	0.000	0.854	0.633	0.000	0.644	0.905	0.000	0.250	0.000	0.000	0.000	0.000	0.423	0.000	0.734	0.000	0.944
		0.802				0.831								0.784			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd & Hard Rock North Dwy
City: Wheatland
Control: 1-Way Stop (WB)

Project ID: 20-070200-002
Date: 11/21/2020

Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				Hard Rock North Dwy				Hard Rock North Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	1	2	0	0	0	0	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	30	0	0	33	23	0	0	0	0	0	0	9	0	29	0	124
4:15 PM	0	28	2	0	44	23	0	0	0	0	0	0	4	0	34	0	135
4:30 PM	0	31	0	0	32	25	0	0	0	0	0	0	2	0	26	0	116
4:45 PM	0	28	6	0	34	18	0	0	0	0	0	0	7	0	25	0	118
5:00 PM	0	20	5	0	40	25	0	0	0	0	0	0	2	0	27	0	119
5:15 PM	0	25	7	1	30	10	0	0	0	0	0	0	5	0	42	0	120
5:30 PM	0	36	16	0	35	27	0	0	0	0	0	0	0	0	27	0	141
5:45 PM	0	25	6	0	55	16	0	0	0	0	0	0	6	0	27	0	135
6:00 PM	0	19	0	0	35	20	0	0	0	0	0	0	13	0	34	1	122
6:15 PM	0	16	1	0	28	28	0	0	0	0	0	0	9	0	21	0	103
6:30 PM	0	24	2	0	37	25	0	0	0	0	0	0	8	0	30	0	126
6:45 PM	0	27	4	0	35	28	0	0	0	0	0	0	3	0	20	0	117
7:00 PM	0	18	3	0	26	14	0	0	0	0	0	0	5	0	37	0	103
7:15 PM	0	25	6	0	30	15	0	0	0	0	0	0	2	0	22	0	100
7:30 PM	0	19	12	0	36	23	0	0	0	0	0	0	2	0	17	0	109
7:45 PM	0	19	3	0	39	15	0	0	0	0	0	0	5	0	28	0	109
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	390	73	1	569	335	0	0	0	0	0	0	82	0	446	1	1897
APPROACH %'s :	0.00%	84.05%	15.73%	0.22%	62.94%	37.06%	0.00%	0.00%					15.50%	0.00%	84.31%	0.19%	
PEAK HR :	05:15 PM - 06:15 PM																TOTAL
PEAK HR VOL :	0	105	29	1	155	73	0	0	0	0	0	0	24	0	130	1	518
PEAK HR FACTOR :	0.000	0.729	0.453	0.250	0.705	0.676	0.000	0.000	0.000	0.000	0.000	0.000	0.462	0.000	0.774	0.250	0.918
		0.649				0.803								0.807			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd & Hard Rock South Dwy
City: Wheatland
Control: 1-Way Stop (WB)

Project ID: 20-070200-003
Date: 11/20/2020

Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				Hard Rock South Dwy				Hard Rock South Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	1	2	0	0	0	0	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	38	19	0	6	27	0	0	0	0	0	0	14	0	11	0	115
4:15 PM	0	43	19	0	9	27	0	0	0	0	0	0	9	0	9	0	116
4:30 PM	0	50	21	0	8	26	0	0	0	0	0	0	12	0	17	0	134
4:45 PM	0	30	22	0	9	37	0	0	0	0	0	0	9	0	7	0	114
5:00 PM	0	39	15	0	13	23	0	0	0	0	0	0	12	0	9	0	111
5:15 PM	0	36	19	0	14	28	0	0	0	0	0	0	9	0	14	0	120
5:30 PM	0	46	17	0	7	24	0	0	0	0	0	0	10	0	15	0	119
5:45 PM	0	33	21	0	14	33	0	0	0	0	0	0	10	0	7	0	118
6:00 PM	0	23	17	0	8	23	0	0	0	0	0	0	9	0	9	0	89
6:15 PM	0	18	22	0	9	15	0	0	0	0	0	0	9	0	16	0	89
6:30 PM	0	14	12	0	7	16	0	0	0	0	0	0	12	0	11	0	72
6:45 PM	0	12	21	0	14	13	0	0	0	0	0	0	6	0	17	0	83
7:00 PM	0	5	21	0	9	8	0	0	0	0	0	0	9	0	5	0	57
7:15 PM	0	9	29	0	6	5	0	0	0	0	0	0	11	0	14	0	74
7:30 PM	0	18	24	0	8	10	0	0	0	0	0	0	13	0	12	0	85
7:45 PM	0	11	23	0	10	6	0	0	0	0	0	0	10	0	9	0	69
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	425	322	0	151	321	0	0	0	0	0	0	164	0	182	0	1565
APPROACH %'s :	0.00%	56.89%	43.11%	0.00%	31.99%	68.01%	0.00%	0.00%					47.40%	0.00%	52.60%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	161	81	0	32	117	0	0	0	0	0	0	44	0	44	0	479
PEAK HR FACTOR :	0.000	0.805	0.920	0.000	0.889	0.791	0.000	0.000	0.000	0.000	0.000	0.000	0.786	0.000	0.647	0.000	0.894
		0.852				0.810								0.759			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd & Hard Rock South Dwy
City: Wheatland
Control: 1-Way Stop (WB)

Project ID: 20-070200-003
Date: 11/21/2020

Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				Hard Rock South Dwy				Hard Rock South Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	1	2	0	0	0	0	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	10	40	0	11	21	0	0	0	0	0	0	20	0	19	0	121
4:15 PM	0	17	20	0	14	13	0	0	0	0	0	0	9	0	14	0	87
4:30 PM	0	11	24	0	13	16	0	0	0	0	0	0	18	0	18	0	100
4:45 PM	0	24	32	0	10	14	0	0	0	0	0	0	17	0	10	0	107
5:00 PM	0	16	38	0	15	11	0	0	0	0	0	0	14	0	8	0	102
5:15 PM	0	19	32	0	7	11	0	0	0	0	0	0	21	0	16	0	106
5:30 PM	0	29	29	0	12	14	0	0	0	0	0	0	22	0	22	0	128
5:45 PM	0	19	28	0	15	8	0	0	0	0	0	0	14	0	13	0	97
6:00 PM	0	7	23	0	9	25	0	0	0	0	0	0	25	0	11	0	100
6:15 PM	0	5	27	0	15	22	0	0	0	0	0	0	26	0	13	0	108
6:30 PM	0	7	28	0	18	15	0	0	0	0	0	0	16	0	19	0	103
6:45 PM	0	12	20	0	23	8	0	0	0	0	0	0	20	0	18	0	101
7:00 PM	0	7	28	0	9	10	0	0	0	0	0	0	12	0	14	0	80
7:15 PM	0	15	38	0	9	8	0	0	0	0	0	0	19	0	17	0	106
7:30 PM	0	14	17	0	17	7	0	0	0	0	0	0	20	0	16	0	91
7:45 PM	0	7	25	0	11	8	0	0	0	0	0	0	20	0	14	0	85
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	219	449	0	208	211	0	0	0	0	0	0	293	0	242	0	1622
APPROACH %'s :	0.00%	32.78%	67.22%	0.00%	49.64%	50.36%	0.00%	0.00%					54.77%	0.00%	45.23%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	88	131	0	44	50	0	0	0	0	0	0	74	0	56	0	443
PEAK HR FACTOR :	0.000	0.759	0.862	0.000	0.733	0.893	0.000	0.000	0.000	0.000	0.000	0.000	0.841	0.000	0.636	0.000	0.865
		0.944				0.904								0.739			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd/Plumas Arboga Rd & Forty Mile Rd
City: Wheatland
Control: 1-Way Stop (WB)

Project ID: 20-070200-004
Date: 11/20/2020

Total

NS/EW Streets:	Forty Mile Rd/Plumas Arboga Rd				Forty Mile Rd/Plumas Arboga Rd				Forty Mile Rd				Forty Mile Rd				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	1	1	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	20	9	0	10	29	0	0	0	0	0	0	20	0	39	0	127
4:15 PM	0	18	16	0	14	24	0	0	0	0	0	0	17	0	50	0	139
4:30 PM	0	19	9	0	7	30	0	0	0	0	0	0	23	0	48	0	136
4:45 PM	0	19	13	0	13	33	0	0	0	0	0	0	22	0	31	0	131
5:00 PM	0	18	10	0	10	21	0	0	0	0	0	0	25	0	37	0	121
5:15 PM	0	22	8	0	8	34	0	0	0	0	0	0	27	0	32	0	131
5:30 PM	0	31	11	0	9	22	0	0	0	0	0	0	24	0	30	0	127
5:45 PM	0	25	10	0	13	32	0	0	0	0	0	0	22	0	26	0	128
6:00 PM	0	16	15	0	8	24	0	0	0	0	0	0	29	0	22	0	114
6:15 PM	0	23	7	0	8	19	0	0	0	0	0	0	13	0	12	0	82
6:30 PM	0	18	8	0	6	16	0	0	0	0	0	0	17	0	9	0	74
6:45 PM	0	25	5	0	4	17	0	0	0	0	0	0	17	0	8	0	76
7:00 PM	0	20	4	0	6	12	0	0	0	0	0	0	15	0	6	0	63
7:15 PM	0	31	4	0	1	14	0	0	0	0	0	0	9	0	6	0	65
7:30 PM	0	35	4	0	5	21	0	0	0	0	0	0	12	0	6	0	83
7:45 PM	0	27	3	0	2	10	0	0	0	0	0	0	12	0	3	0	57
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	367	136	0	124	358	0	0	0	0	0	0	304	0	365	0	1654
APPROACH %'s :	0.00%	72.96%	27.04%	0.00%	25.73%	74.27%	0.00%	0.00%					45.44%	0.00%	54.56%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	76	47	0	44	116	0	0	0	0	0	0	82	0	168	0	533
PEAK HR FACTOR :	0.000	0.950	0.734	0.000	0.786	0.879	0.000	0.000	0.000	0.000	0.000	0.000	0.891	0.000	0.840	0.000	0.959
		0.904				0.870								0.880			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd/Plumas Arboga Rd & Forty Mile Rd
City: Wheatland
Control: 1-Way Stop (WB)

Project ID: 20-070200-004
Date: 11/21/2020

Total

NS/EW Streets:	Forty Mile Rd/Plumas Arboga Rd				Forty Mile Rd/Plumas Arboga Rd				Forty Mile Rd				Forty Mile Rd				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	1	1	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	36	15	0	9	31	0	0	0	0	0	0	17	0	7	0	115
4:15 PM	0	24	11	0	7	18	0	0	0	0	0	0	11	0	14	0	85
4:30 PM	0	24	10	0	9	23	0	0	0	0	0	0	18	0	13	0	97
4:45 PM	0	38	9	0	4	26	0	0	0	0	0	0	20	0	18	0	115
5:00 PM	0	42	8	0	5	22	0	0	0	0	0	0	17	0	9	0	103
5:15 PM	0	41	9	0	2	26	0	0	0	0	0	0	20	0	13	0	111
5:30 PM	0	41	8	0	3	34	0	0	0	0	0	0	24	0	16	0	126
5:45 PM	0	30	6	0	4	19	0	0	0	0	0	0	17	0	11	0	87
6:00 PM	0	30	8	0	7	38	0	0	0	0	0	0	17	0	4	0	104
6:15 PM	0	23	4	0	7	45	0	0	0	0	0	0	15	0	3	0	97
6:30 PM	0	32	7	0	3	26	0	0	0	0	0	0	9	0	7	0	84
6:45 PM	0	21	2	0	4	21	0	0	0	0	0	0	14	0	8	0	70
7:00 PM	0	30	7	0	8	17	0	0	0	0	0	0	10	0	5	0	77
7:15 PM	0	46	2	0	4	24	0	0	0	0	0	0	8	0	6	0	90
7:30 PM	0	24	5	0	0	24	0	0	0	0	0	0	7	0	6	0	66
7:45 PM	0	25	1	0	2	25	0	0	0	0	0	0	6	0	6	0	65
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	507	112	0	78	419	0	0	0	0	0	0	230	0	146	0	1492
APPROACH %'s :	0.00%	81.91%	18.09%	0.00%	15.69%	84.31%	0.00%	0.00%					61.17%	0.00%	38.83%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	162	34	0	14	108	0	0	0	0	0	0	81	0	56	0	455
PEAK HR FACTOR :	0.000	0.964	0.944	0.000	0.700	0.794	0.000	0.000	0.000	0.000	0.000	0.000	0.844	0.000	0.778	0.000	0.903
		0.980				0.824								0.856			

Prepared by National Data & Surveying Services

Vehicle Occupancy Study

Location: Hard Rock Hotel and Casino Parking Lot
City: Wheatland, CA

Date: 11/20/2020
Day: Friday

Time	Vehicle with Driver Only	Vehicle with 2 People	Vehicle with 3+ People
4:00:00 PM	9	16	1
4:15:00 PM	15	10	0
4:30:00 PM	24	6	0
4:45:00 PM	17	14	0
Total	65	46	1

National Data & Surveying Services Intersection Turning Movement Count

Location: Forty Mile Rd & SR-65 SB ramps
City: Olivehurst
Control: 1-Way Stop(EB)

Project ID: 21-070011-001
Date: 2/4/2021

Data - Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				SR-65 SB ramps				SR-65 SB ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0.5	0.5	0	0	0	0.5	0.5	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	63	15	0	0	27	0	0	2	0	29	0	0	0	0	0	136
4:15 PM	0	53	14	0	1	30	0	0	3	0	37	0	0	0	0	0	138
4:30 PM	0	61	4	0	1	28	0	0	5	0	30	0	0	0	0	0	129
4:45 PM	0	62	12	0	0	40	0	0	2	0	47	0	0	0	0	0	163
5:00 PM	0	55	19	0	3	38	0	0	19	1	25	0	0	0	0	0	160
5:15 PM	0	40	8	0	2	37	0	0	2	1	38	0	0	0	0	0	128
5:30 PM	0	52	17	0	3	23	0	0	5	0	40	0	0	0	0	0	140
5:45 PM	0	50	8	0	0	31	0	0	4	0	45	0	0	0	0	0	138
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	436	97	0	10	254	0	0	42	2	291	0	0	0	0	0	1132
APPROACH %'s :	0.00%	81.80%	18.20%	0.00%	3.79%	96.21%	0.00%	0.00%	12.54%	0.60%	86.87%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	209	56	0	8	138	0	0	28	2	150	0	0	0	0	0	591
PEAK HR FACTOR :	0.000	0.843	0.737	0.000	0.667	0.863	0.000	0.000	0.368	0.500	0.798	0.000	0.000	0.000	0.000	0.000	0.906
	0.895				0.890				0.918								

National Data & Surveying Services Intersection Turning Movement Count

Location: Forty Mile Rd & Hard Rock Hotel & Casino North Dwy
City: Marysville
Control: 1-Way Stop(WB)

Project ID: 21-070011-002
Date: 2/4/2021

Data - Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				Hard Rock Hotel & Casino North Dwy				Hard Rock Hotel & Casino North Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	2 NT	1 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	1 WL	0 WT	1 WR	0 WU	TOTAL
4:00 PM	0	38	1	0	18	37	0	0	0	0	0	0	13	0	38	0	145
4:15 PM	0	42	4	0	35	33	0	0	0	0	0	0	4	0	19	0	137
4:30 PM	0	48	2	0	21	35	0	0	0	0	0	0	4	0	15	0	125
4:45 PM	0	52	4	0	33	54	0	0	0	0	0	0	5	0	24	0	172
5:00 PM	0	31	4	0	25	38	0	0	0	0	0	0	6	0	39	0	143
5:15 PM	0	24	8	0	35	38	0	0	0	0	0	0	3	0	21	0	129
5:30 PM	0	38	10	0	36	26	0	0	0	0	0	0	2	0	35	0	147
5:45 PM	0	33	5	0	35	40	0	0	0	0	0	0	9	0	26	0	148
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	306	38	0	238	301	0	0	0	0	0	0	46	0	217	0	1146
APPROACH %'s :	0.00%	88.95%	11.05%	0.00%	44.16%	55.84%	0.00%	0.00%					17.49%	0.00%	82.51%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	145	26	0	129	156	0	0	0	0	0	0	16	0	119	0	591
PEAK HR FACTOR :	0.000	0.697	0.650	0.000	0.896	0.722	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.763	0.000	0.859
	0.763				0.819								0.750				

National Data & Surveying Services Intersection Turning Movement Count

Location: Forty Mile Rd & Hard Rock Hotel & Casino South Dwy
City: Marysville
Control: No Control

Project ID: 21-070011-003
Date: 2/4/2021

Data - Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				Hard Rock Hotel & Casino South Dwy				Hard Rock Hotel & Casino South Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	2 NT	1 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	TOTAL
4:00 PM	0	30	15	0	13	38	0	0	0	0	0	0	12	0	9	0	117
4:15 PM	0	34	7	0	5	31	0	0	0	0	0	0	14	0	11	0	102
4:30 PM	0	38	22	0	5	35	0	0	0	0	0	0	13	0	13	0	126
4:45 PM	0	43	21	0	18	41	0	0	0	0	0	0	11	0	14	0	148
5:00 PM	0	21	15	0	7	37	0	0	0	0	0	0	10	0	12	0	102
5:15 PM	0	19	22	0	5	36	0	0	0	0	0	0	7	0	14	0	103
5:30 PM	0	38	18	0	9	19	0	0	0	0	0	0	7	0	9	0	100
5:45 PM	0	24	16	0	11	38	0	0	0	0	0	0	14	0	14	0	117
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	247	136	0	73	275	0	0	0	0	0	0	88	0	96	0	915
APPROACH %'s :	0.00%	64.49%	35.51%	0.00%	20.98%	79.02%	0.00%	0.00%					47.83%	0.00%	52.17%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	145	65	0	41	145	0	0	0	0	0	0	50	0	47	0	493
PEAK HR FACTOR :	0.000	0.843	0.739	0.000	0.569	0.884	0.000	0.000	0.000	0.000	0.000	0.000	0.893	0.000	0.839	0.000	0.833
	0.820				0.788								0.933				

National Data & Surveying Services Intersection Turning Movement Count

Location: Forty Mile Rd/Plumas Arboga Rd & Forty Mile Rd
City: Wheatland
Control: 1-Way Stop(WB)

Project ID: 21-070011-004
Date: 2/4/2021

Data - Total

NS/EW Streets:	Forty Mile Rd/Plumas Arboga Rd				Forty Mile Rd/Plumas Arboga Rd				Forty Mile Rd				Forty Mile Rd				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	1 NT	1 NR	0 NU	1 SL	1 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	1 WL	0 WT	1 WR	0 WU	TOTAL
4:00 PM	0	17	8	0	14	34	0	0	0	0	0	0	19	0	27	0	119
4:15 PM	0	13	9	0	8	37	0	0	0	0	0	0	19	0	24	0	110
4:30 PM	0	23	8	0	8	40	0	0	0	0	0	0	28	0	43	0	150
4:45 PM	0	30	7	0	10	37	0	0	0	0	0	0	16	0	33	0	133
5:00 PM	0	15	11	0	12	37	0	0	0	0	0	0	22	0	16	0	113
5:15 PM	0	30	10	0	11	35	0	0	0	0	0	0	26	0	14	0	126
5:30 PM	0	28	11	0	8	20	0	0	0	0	0	0	30	0	27	0	124
5:45 PM	0	13	3	0	6	37	0	0	0	0	0	0	18	0	24	0	101
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	169	67	0	77	277	0	0	0	0	0	0	178	0	208	0	976
APPROACH %'s :	0.00%	71.61%	28.39%	0.00%	21.75%	78.25%	0.00%	0.00%					46.11%	0.00%	53.89%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	98	36	0	41	149	0	0	0	0	0	0	92	0	106	0	522
PEAK HR FACTOR :	0.000	0.817	0.818	0.000	0.854	0.931	0.000	0.000	0.000	0.000	0.000	0.000	0.821	0.000	0.616	0.000	0.870
	0.838				0.969								0.697				

National Data & Surveying Services Intersection Turning Movement Count

Location: Forty Mile Rd & SR-65 NB Ramps
City: Marysville
Control: 1-Way Stop(WB)

Project ID: 21-070011-005
Date: 2/4/2021

Data - Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				SR-65 NB Ramps				SR-65 NB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0.5	0.5	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	51	12	0	0	0	15	5	0	0	0	0	0	14	0	1	0	98
4:15 PM	45	13	0	0	0	20	4	0	0	0	0	0	9	0	1	0	92
4:30 PM	49	14	0	0	0	21	8	0	0	0	0	0	8	0	1	0	101
4:45 PM	51	12	0	0	0	19	14	0	0	0	0	0	21	0	2	0	119
5:00 PM	51	25	0	0	0	28	4	0	0	0	0	0	16	0	0	0	124
5:15 PM	37	7	0	0	0	23	6	0	0	0	0	0	13	0	0	0	86
5:30 PM	42	15	0	0	0	13	8	0	0	0	0	0	15	0	0	0	93
5:45 PM	47	7	0	0	0	16	4	0	0	0	0	0	13	0	0	0	87
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	373	105	0	0	0	155	53	0	0	0	0	0	109	0	5	0	800
APPROACH %'s :	78.03%	21.97%	0.00%	0.00%	0.00%	74.52%	25.48%	0.00%					95.61%	0.00%	4.39%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	196	64	0	0	0	88	30	0	0	0	0	0	54	0	4	0	436
PEAK HR FACTOR :	0.961	0.640	0.000	0.000	0.000	0.786	0.536	0.000	0.000	0.000	0.000	0.000	0.643	0.000	0.500	0.000	0.879
	0.855				0.894								0.630				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-65 SB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(SB)

Project ID: 21-070011-006
Date: 2/4/2021

Data - Total

NS/EW Streets:	SR-65 SB Ramps				SR-65 SB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	4	0	27	0	0	15	21	0	1	71	0	0	139
4:15 PM	0	0	0	0	2	0	23	0	0	23	19	0	2	51	0	0	120
4:30 PM	0	0	0	0	3	0	31	0	0	19	22	0	1	68	0	1	145
4:45 PM	0	0	0	0	4	0	24	0	0	14	30	0	0	84	0	0	156
5:00 PM	0	0	0	0	4	0	24	0	0	16	21	0	3	61	0	0	129
5:15 PM	0	0	0	0	3	0	29	0	0	10	13	0	1	57	0	0	113
5:30 PM	0	0	0	0	2	0	14	0	0	21	17	0	0	53	0	0	107
5:45 PM	0	0	0	0	1	0	23	0	0	18	17	0	0	52	0	0	111
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	23	0	195	0	0	136	160	0	8	497	0	1	1020
APPROACH %'s :					10.55%	0.00%	89.45%	0.00%	0.00%	45.95%	54.05%	0.00%	1.58%	98.22%	0.00%	0.20%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	13	0	105	0	0	71	92	0	4	274	0	1	560
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.813	0.000	0.847	0.000	0.000	0.772	0.767	0.000	0.500	0.815	0.000	0.250	0.897
					0.868				0.926				0.830				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-65 NB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(NB)

Project ID: 21-070011-007
Date: 2/4/2021

Data - Total

NS/EW Streets:	SR-65 NB Ramps				SR-65 NB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	53	0	0	0	0	0	0	0	8	10	0	0	0	19	4	0	94
4:15 PM	30	1	1	0	0	0	0	0	12	11	0	0	0	23	10	0	88
4:30 PM	53	0	1	0	0	0	0	0	12	12	0	0	0	18	6	0	102
4:45 PM	50	0	0	0	0	0	0	0	12	8	0	0	0	33	5	0	108
5:00 PM	44	0	0	0	0	0	0	0	13	7	0	0	0	21	6	0	91
5:15 PM	37	0	1	0	0	0	0	0	6	7	0	0	0	18	2	0	71
5:30 PM	40	1	0	0	0	0	0	0	12	10	0	0	0	15	7	0	85
5:45 PM	40	0	1	0	0	0	0	0	13	7	0	0	0	11	4	0	76
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	347	2	4	0	0	0	0	0	88	72	0	0	0	158	44	0	715
APPROACH %'s :	98.30%	0.57%	1.13%	0.00%					55.00%	45.00%	0.00%	0.00%	0.00%	78.22%	21.78%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	186	1	2	0	0	0	0	0	44	41	0	0	0	93	25	0	392
PEAK HR FACTOR :	0.877	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.917	0.854	0.000	0.000	0.000	0.705	0.625	0.000	0.907
	0.875								0.885				0.776				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-70 SB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(SB)

Project ID: 21-070011-008
Date: 2/4/2021

Data - Total

NS/EW Streets:	SR-70 SB Ramps				SR-70 SB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0.5	0.5	1	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	14	0	31	0	0	88	29	0	18	106	0	0	286
4:15 PM	0	0	0	0	15	0	46	0	0	79	20	0	12	98	0	0	270
4:30 PM	0	0	0	0	9	0	34	0	0	86	22	0	11	115	0	0	277
4:45 PM	0	0	0	0	11	1	40	0	0	72	17	0	23	105	0	0	269
5:00 PM	0	0	0	0	13	1	42	0	0	88	19	0	17	96	0	0	276
5:15 PM	0	0	0	0	10	0	46	0	0	78	23	0	10	93	0	0	260
5:30 PM	0	0	0	0	10	0	52	0	0	92	23	0	14	96	0	0	287
5:45 PM	0	0	0	0	11	0	44	0	0	85	14	0	8	90	0	0	252
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	93	2	335	0	0	668	167	0	113	799	0	0	2177
APPROACH %'s :					21.63%	0.47%	77.91%	0.00%	0.00%	80.00%	20.00%	0.00%	12.39%	87.61%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	49	1	151	0	0	325	88	0	64	424	0	0	1102
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.817	0.250	0.821	0.000	0.000	0.923	0.759	0.000	0.696	0.922	0.000	0.000	0.963
							0.824				0.882				0.953		

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-70 NB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(NB)

Project ID: 21-070011-009
Date: 2/4/2021

Data - Total

NS/EW Streets:	SR-70 NB Ramps				SR-70 NB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	36	0	11	0	0	0	0	0	29	71	0	0	0	88	16	0	251
4:15 PM	52	0	9	0	0	0	0	0	37	58	0	0	0	57	19	0	232
4:30 PM	49	0	16	0	0	0	0	0	41	55	0	0	0	78	13	0	252
4:45 PM	29	0	13	0	0	0	0	0	36	46	0	0	0	98	13	0	235
5:00 PM	34	0	5	0	0	0	0	0	42	58	0	0	0	78	10	0	227
5:15 PM	29	2	10	0	0	0	0	0	39	50	0	0	0	76	18	0	224
5:30 PM	32	0	9	0	0	0	0	0	41	65	0	0	0	78	10	0	235
5:45 PM	36	0	8	0	0	0	0	0	40	56	0	0	0	63	18	0	221
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	297	2	81	0	0	0	0	0	305	459	0	0	0	616	117	0	1877
APPROACH %'s :	78.16%	0.53%	21.32%	0.00%					39.92%	60.08%	0.00%	0.00%	0.00%	84.04%	15.96%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	166	0	49	0	0	0	0	0	143	230	0	0	0	321	61	0	970
PEAK HR FACTOR :	0.798	0.000	0.766	0.000	0.000	0.000	0.000	0.000	0.872	0.810	0.000	0.000	0.000	0.819	0.803	0.000	0.962
	0.827								0.933				0.860				

National Data & Surveying Services Intersection Turning Movement Count

Location: Main St & SR-65
City: Wheatland
Control: Signalized

Project ID: 21-070011-010
Date: 2/4/2021

Data - Total

NS/EW Streets:	Main St				Main St				SR-65				SR-65				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.3	0.3	0.3	0	0.3	0.3	0.3	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	14	5	0	37	1	11	0	9	200	0	0	3	235	2	0	518
4:15 PM	1	9	2	0	64	2	14	0	7	174	0	0	3	211	0	0	487
4:30 PM	0	5	2	0	46	2	9	0	5	225	0	0	4	242	1	0	541
4:45 PM	1	3	6	0	61	1	6	0	13	199	0	0	1	231	2	0	524
5:00 PM	0	4	4	0	63	0	11	0	15	194	0	0	2	206	1	0	500
5:15 PM	0	2	1	0	46	2	14	0	8	190	0	0	1	228	1	0	493
5:30 PM	1	0	2	0	36	4	18	0	17	205	1	0	1	211	4	0	500
5:45 PM	1	7	3	0	24	2	22	0	9	180	0	0	1	239	4	0	492
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	5	44	25	0	377	14	105	0	83	1567	1	0	16	1803	15	0	4055
APPROACH %'s :	6.76%	59.46%	33.78%	0.00%	76.01%	2.82%	21.17%	0.00%	5.03%	94.91%	0.06%	0.00%	0.87%	98.31%	0.82%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	3	31	15	0	208	6	40	0	34	798	0	0	11	919	5	0	2070
PEAK HR FACTOR :	0.750	0.554	0.625	0.000	0.813	0.750	0.714	0.000	0.654	0.887	0.000	0.000	0.688	0.949	0.625	0.000	0.957
	0.613				0.794				0.904				0.946				

National Data & Surveying Services Intersection Turning Movement Count

Location: 1st St & SR-65
City: Wheatland
Control: Signalized

Project ID: 21-070011-011
Date: 2/4/2021

Data - Total

NS/EW Streets:	1st St				1st St				SR-65				SR-65				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	0 WR	0 WU	TOTAL
4:00 PM	17	0	15	0	2	2	3	0	0	222	5	0	5	252	2	0	525
4:15 PM	5	1	11	0	0	3	3	0	0	198	2	0	8	237	0	0	468
4:30 PM	3	0	12	0	1	1	8	0	0	238	0	0	2	254	0	0	519
4:45 PM	6	0	17	0	2	2	2	0	1	208	4	0	4	248	1	0	495
5:00 PM	9	0	6	0	2	0	3	0	0	223	2	0	6	224	0	0	475
5:15 PM	6	1	5	0	1	0	2	0	0	209	3	0	0	243	0	0	470
5:30 PM	8	0	7	0	2	0	4	0	1	240	0	0	5	228	0	0	495
5:45 PM	7	1	11	0	1	0	2	0	0	199	2	0	0	263	0	0	486
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	61	3	84	0	11	8	27	0	2	1737	18	0	30	1949	3	0	3933
APPROACH %'s :	41.22%	2.03%	56.76%	0.00%	23.91%	17.39%	58.70%	0.00%	0.11%	98.86%	1.02%	0.00%	1.51%	98.34%	0.15%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	31	1	55	0	5	8	16	0	1	866	11	0	19	991	3	0	2007
PEAK HR FACTOR :	0.456	0.250	0.809	0.000	0.625	0.667	0.500	0.000	0.250	0.910	0.550	0.000	0.594	0.975	0.375	0.000	0.956
	0.680				0.725				0.922				0.978				

National Data & Surveying Services Intersection Turning Movement Count

Location: Forty Mile Rd & SR-65 NB Ramps
City: Marysville
Control: 1-Way Stop (WB)

Project ID: 21-070011-005
Date: 2/5/2021

Data - Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				SR-65 NB Ramps				SR-65 NB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0.5	0.5	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	55	14	0	0	0	19	8	0	0	0	0	0	8	0	0	0	104
4:15 PM	45	15	0	0	0	16	6	0	0	0	0	0	11	1	0	0	94
4:30 PM	68	16	0	0	0	11	6	0	0	0	0	0	9	0	1	0	111
4:45 PM	65	7	0	0	0	22	13	0	0	0	0	0	10	0	1	0	118
5:00 PM	52	3	0	0	0	13	7	0	0	0	0	0	19	0	2	0	96
5:15 PM	55	7	0	0	0	14	8	0	0	0	0	0	23	0	0	0	107
5:30 PM	34	8	0	0	0	17	3	0	0	0	0	0	16	0	1	0	79
5:45 PM	42	6	0	0	0	6	4	0	0	0	0	0	14	0	1	0	73
6:00 PM	49	7	0	0	0	9	8	0	0	0	0	0	14	0	0	0	87
6:15 PM	56	3	0	0	0	4	6	0	0	0	0	0	18	0	1	0	88
6:30 PM	36	1	0	0	0	5	1	0	0	0	0	0	23	0	0	0	66
6:45 PM	34	7	0	0	0	8	2	0	0	0	0	0	18	0	1	0	70
7:00 PM	45	4	0	0	0	1	1	0	0	0	0	0	9	0	1	0	61
7:15 PM	40	4	0	0	0	5	2	0	0	0	0	0	15	0	0	0	66
7:30 PM	41	2	0	0	0	1	3	0	0	0	0	0	19	0	0	0	66
7:45 PM	37	4	0	0	0	2	1	0	0	0	0	0	21	0	2	0	67
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	754	108	0	0	0	153	79	0	0	0	0	0	247	1	11	0	1353
APPROACH %'s :	87.47%	12.53%	0.00%	0.00%	0.00%	65.95%	34.05%	0.00%					95.37%	0.39%	4.25%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	240	33	0	0	0	60	34	0	0	0	0	0	61	0	4	0	432
PEAK HR FACTOR :	0.882	0.516	0.000	0.000	0.000	0.682	0.654	0.000	0.000	0.000	0.000	0.000	0.663	0.000	0.500	0.000	0.915
	0.813				0.671								0.707				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-65 SB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(SB)

Project ID: 21-070011-006
Date: 2/5/2021

Data - Total

NS/EW Streets:	SR-65 SB Ramps				SR-65 SB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	1	0	13	0	0	13	28	0	0	68	0	0	123
4:15 PM	0	0	0	0	5	0	20	0	0	19	20	0	1	59	0	0	124
4:30 PM	0	0	0	0	7	0	22	0	0	14	22	0	0	76	0	0	141
4:45 PM	0	0	0	0	2	0	16	0	0	18	28	0	1	68	0	0	133
5:00 PM	0	0	0	0	1	1	31	0	0	17	22	0	0	55	0	0	127
5:15 PM	0	0	0	0	3	0	23	0	0	20	27	0	0	45	0	0	118
5:30 PM	0	0	0	0	0	0	25	0	0	15	20	0	0	48	0	0	108
5:45 PM	0	0	0	0	4	1	24	0	0	6	24	0	0	50	0	0	109
6:00 PM	0	0	0	0	3	0	16	0	0	10	29	0	0	53	0	0	111
6:15 PM	0	0	0	0	4	0	12	0	0	10	16	0	0	46	0	0	88
6:30 PM	0	0	0	0	2	0	17	0	0	14	22	0	0	32	0	0	87
6:45 PM	0	0	0	0	2	0	18	0	0	11	17	0	0	37	0	0	85
7:00 PM	0	0	0	0	2	2	17	0	0	8	19	0	0	26	0	0	74
7:15 PM	0	0	0	0	0	1	17	0	0	13	11	0	0	22	0	0	64
7:30 PM	0	0	0	0	0	0	16	0	0	12	14	0	0	25	0	0	67
7:45 PM	0	0	0	0	0	1	23	0	0	9	16	0	1	24	0	0	74
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	36	6	310	0	0	209	335	0	3	734	0	0	1633
APPROACH %'s :					10.23%	1.70%	88.07%	0.00%	0.00%	38.42%	61.58%	0.00%	0.41%	99.59%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	15	1	89	0	0	68	92	0	2	258	0	0	525
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.536	0.250	0.718	0.000	0.000	0.895	0.821	0.000	0.500	0.849	0.000	0.000	0.931
					0.795				0.870				0.855				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-65 NB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(NB)

Project ID: 21-070011-007
Date: 2/5/2021

Data - Total

NS/EW Streets:	SR-65 NB Ramps				SR-65 NB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	56	2	0	0	0	0	0	0	9	6	0	0	0	13	8	0	94
4:15 PM	40	1	1	0	0	0	0	0	11	13	0	0	0	19	5	0	90
4:30 PM	46	0	0	0	0	0	0	0	8	12	0	0	0	30	3	0	99
4:45 PM	45	1	1	0	0	0	0	0	16	5	0	0	0	24	5	0	97
5:00 PM	43	0	0	0	0	0	0	0	11	6	0	0	0	14	7	0	81
5:15 PM	36	1	1	0	0	0	0	0	15	7	0	0	0	8	2	0	70
5:30 PM	34	0	1	0	0	0	0	0	12	5	0	0	0	13	6	0	71
5:45 PM	33	1	0	0	0	0	0	0	5	5	0	0	0	18	6	0	68
6:00 PM	40	0	0	0	0	0	0	0	10	3	0	0	0	14	6	0	73
6:15 PM	40	0	0	0	0	0	0	0	6	8	0	0	0	6	1	0	61
6:30 PM	27	0	0	0	0	0	0	0	12	4	0	0	0	3	4	0	50
6:45 PM	30	0	0	0	0	0	0	0	7	5	0	0	0	7	1	0	50
7:00 PM	24	0	0	0	0	0	0	0	5	6	0	0	0	5	0	0	40
7:15 PM	17	0	0	0	0	0	0	0	10	3	0	0	0	2	0	0	32
7:30 PM	23	0	0	0	0	0	0	0	9	3	0	0	0	2	1	0	38
7:45 PM	22	0	0	0	0	0	0	0	5	4	0	0	0	3	2	0	36
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	556	6	4	0	0	0	0	0	151	95	0	0	0	181	57	0	1050
APPROACH %'s :	98.23%	1.06%	0.71%	0.00%					61.38%	38.62%	0.00%	0.00%	0.00%	76.05%	23.95%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	187	4	2	0	0	0	0	0	44	36	0	0	0	86	21	0	380
PEAK HR FACTOR :	0.835	0.500	0.500	0.000	0.000	0.000	0.000	0.000	0.688	0.692	0.000	0.000	0.000	0.717	0.656	0.000	0.960
	0.832								0.833				0.811				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-70 SB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(SB)

Project ID: 21-070011-008
Date: 2/5/2021

Data - Total

NS/EW Streets:	SR-70 SB Ramps				SR-70 SB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0.5	0.5	1	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	7	0	41	0	0	86	26	0	8	110	0	0	278
4:15 PM	0	0	0	0	7	0	42	0	0	97	23	0	13	95	0	0	277
4:30 PM	0	0	0	0	10	0	47	0	0	90	18	0	13	98	0	0	276
4:45 PM	0	0	0	0	10	0	39	0	0	83	17	0	11	97	0	0	257
5:00 PM	0	0	0	0	16	0	46	0	0	101	24	0	14	90	0	0	291
5:15 PM	0	0	0	0	10	0	67	0	0	77	18	0	4	91	0	0	267
5:30 PM	0	0	0	0	16	0	42	0	0	80	26	0	10	78	0	0	252
5:45 PM	0	0	0	0	12	0	44	0	0	105	20	0	10	92	0	0	283
6:00 PM	0	0	0	0	11	0	37	0	0	92	20	0	5	99	0	0	264
6:15 PM	0	0	0	0	8	0	45	0	0	71	20	0	9	80	0	0	233
6:30 PM	0	0	0	0	12	0	37	0	0	81	18	0	5	72	0	0	225
6:45 PM	0	0	0	0	13	0	42	0	0	61	18	0	4	67	0	0	205
7:00 PM	0	0	0	0	17	0	35	0	0	81	16	0	1	62	0	0	212
7:15 PM	0	0	0	0	10	0	40	0	0	68	15	0	2	62	0	0	197
7:30 PM	0	0	0	0	6	0	34	0	0	76	15	0	3	49	0	0	183
7:45 PM	0	0	0	0	5	0	29	0	0	68	20	0	6	48	0	0	176
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	170	0	667	0	0	1317	314	0	118	1290	0	0	3876
APPROACH %'s :					20.31%	0.00%	79.69%	0.00%	0.00%	80.75%	19.25%	0.00%	8.38%	91.62%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	43	0	174	0	0	371	82	0	51	380	0	0	1101
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.672	0.000	0.926	0.000	0.000	0.918	0.854	0.000	0.911	0.969	0.000	0.000	0.946
					0.875				0.906				0.971				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-70 NB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(NB)

Project ID: 21-070011-009
Date: 2/5/2021

Data - Total

NS/EW Streets:	SR-70 NB Ramps				SR-70 NB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	36	0	13	0	0	0	0	0	33	58	0	0	0	84	8	0	232
4:15 PM	36	0	9	0	0	0	0	0	55	51	0	0	0	70	14	0	235
4:30 PM	33	1	6	0	0	0	0	0	39	61	0	0	0	82	20	0	242
4:45 PM	31	0	9	0	0	0	0	0	43	53	0	0	0	78	14	0	228
5:00 PM	24	0	6	0	0	0	0	0	49	67	0	0	0	77	14	0	237
5:15 PM	33	0	10	0	0	0	0	0	32	55	0	0	0	62	16	0	208
5:30 PM	28	0	10	0	0	0	0	0	29	65	0	0	0	60	20	0	212
5:45 PM	32	0	4	0	0	0	0	0	50	62	0	0	0	71	27	0	246
6:00 PM	40	1	6	0	0	0	0	0	49	62	0	0	0	63	12	0	233
6:15 PM	28	0	5	0	0	0	0	0	31	49	0	0	0	61	17	0	191
6:30 PM	23	0	5	0	0	0	0	0	38	53	0	0	0	53	13	0	185
6:45 PM	22	0	10	0	0	0	0	0	31	44	0	0	0	49	13	0	169
7:00 PM	17	0	13	0	0	0	0	0	38	57	0	0	0	45	13	0	183
7:15 PM	20	0	3	0	0	0	0	0	35	46	0	0	0	45	11	0	160
7:30 PM	12	0	6	0	0	0	0	0	37	44	0	0	0	41	10	0	150
7:45 PM	14	0	3	0	0	0	0	0	25	46	0	0	0	38	12	0	138
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	429	2	118	0	0	0	0	0	614	873	0	0	0	979	234	0	3249
APPROACH %'s :	78.14%	0.36%	21.49%	0.00%					41.29%	58.71%	0.00%	0.00%	0.00%	80.71%	19.29%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	124	1	30	0	0	0	0	0	186	232	0	0	0	307	62	0	942
PEAK HR FACTOR :	0.861	0.250	0.833	0.000	0.000	0.000	0.000	0.000	0.845	0.866	0.000	0.000	0.000	0.936	0.775	0.000	0.973
	0.861								0.901				0.904				

National Data & Surveying Services Intersection Turning Movement Count

Location: Main St & SR-65
City: Wheatland
Control: Signalized

Project ID: 21-070011-010
Date: 2/5/2021

Data - Total

NS/EW Streets:	Main St				Main St				SR-65				SR-65				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.3	0.3	0.3	0	0.3	0.3	0.3	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	6	2	0	30	0	8	0	10	196	0	0	3	239	1	0	495
4:15 PM	3	6	8	0	62	2	16	0	8	230	0	0	0	215	0	0	550
4:30 PM	1	7	1	0	35	1	10	0	2	232	0	0	0	246	2	0	537
4:45 PM	1	6	3	0	56	2	20	0	11	198	0	0	3	214	1	0	515
5:00 PM	1	4	3	0	60	2	20	0	15	203	1	0	4	202	2	0	517
5:15 PM	1	5	2	0	50	1	17	0	11	193	2	0	0	226	4	0	512
5:30 PM	0	1	7	0	44	2	21	0	13	191	1	0	1	220	0	0	501
5:45 PM	2	2	3	0	27	3	12	0	9	179	0	0	0	240	1	0	478
6:00 PM	0	3	0	0	23	0	15	0	12	173	1	0	4	241	5	0	477
6:15 PM	1	1	0	0	16	1	14	0	15	162	1	0	1	218	5	0	435
6:30 PM	1	0	0	0	20	1	13	0	17	129	0	0	1	197	7	0	386
6:45 PM	0	1	0	1	9	0	6	0	7	143	0	0	0	168	2	0	337
7:00 PM	1	0	0	0	9	1	11	0	5	88	1	0	1	159	6	0	282
7:15 PM	2	1	0	0	6	2	5	0	10	106	0	0	0	153	6	0	291
7:30 PM	0	1	0	0	8	1	7	0	10	91	1	0	0	160	6	0	285
7:45 PM	0	0	0	0	7	0	5	0	3	78	0	0	0	141	3	0	237
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	14	44	29	1	462	19	200	0	158	2592	8	0	18	3239	51	0	6835
APPROACH %'s :	15.91%	50.00%	32.95%	1.14%	67.84%	2.79%	29.37%	0.00%	5.73%	93.98%	0.29%	0.00%	0.54%	97.91%	1.54%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	6	23	15	0	213	7	66	0	36	863	1	0	7	877	5	0	2119
PEAK HR FACTOR :	0.500	0.821	0.469	0.000	0.859	0.875	0.825	0.000	0.600	0.930	0.250	0.000	0.438	0.891	0.625	0.000	0.963
	0.647				0.872				0.945				0.896				

National Data & Surveying Services Intersection Turning Movement Count

Location: 1st St & SR-65
City: Wheatland
Control: Signalized

Project ID: 21-070011-011
Date: 2/5/2021

Data - Total

NS/EW Streets:	1st St				1st St				SR-65				SR-65				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	15	1	10	0	0	0	6	0	4	225	1	0	3	245	0	0	510
4:15 PM	10	0	15	0	4	2	1	0	2	237	4	0	3	246	0	0	524
4:30 PM	3	2	11	0	1	0	5	0	2	239	3	0	2	252	0	0	520
4:45 PM	5	1	8	0	0	3	7	0	0	225	0	0	10	257	0	0	516
5:00 PM	9	0	13	0	0	1	2	0	0	231	1	0	7	226	1	0	491
5:15 PM	4	1	9	0	0	2	3	0	0	207	5	0	3	238	1	0	473
5:30 PM	10	0	8	0	0	1	2	0	1	225	1	0	2	257	0	0	507
5:45 PM	2	0	12	0	0	0	12	0	1	201	4	0	4	244	1	0	481
6:00 PM	4	1	8	1	0	3	4	0	1	202	4	0	1	261	0	0	490
6:15 PM	7	0	6	0	1	1	1	0	0	185	3	0	4	250	0	0	458
6:30 PM	3	0	6	0	1	0	3	0	0	152	3	0	0	215	1	0	384
6:45 PM	4	0	8	0	0	0	3	0	0	155	3	0	0	182	1	0	356
7:00 PM	0	1	6	0	0	0	3	0	0	105	6	0	1	168	0	0	290
7:15 PM	3	0	3	0	2	1	2	0	1	126	0	0	1	167	2	0	308
7:30 PM	1	1	4	0	2	0	2	0	2	100	1	0	3	161	1	0	278
7:45 PM	0	0	1	0	0	0	3	0	0	91	0	0	0	146	0	0	241
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	80	8	128	1	11	14	59	0	14	2906	39	0	44	3515	8	0	6827
APPROACH %'s :	36.87%	3.69%	58.99%	0.46%	13.10%	16.67%	70.24%	0.00%	0.47%	98.21%	1.32%	0.00%	1.23%	98.54%	0.22%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	33	4	44	0	5	5	19	0	8	926	8	0	18	1000	0	0	2070
PEAK HR FACTOR :	0.550	0.500	0.733	0.000	0.313	0.417	0.679	0.000	0.500	0.969	0.500	0.000	0.450	0.973	0.000	0.000	0.988
	0.779				0.725				0.965				0.953				

Attachment B
Analysis Worksheets

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	2	173	0	0	0	0	240	64	9	159	0
Future Vol, veh/h	32	2	173	0	0	0	0	240	64	9	159	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	37	50	80	100	100	100	89	84	74	67	86	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	4	216	0	0	0	0	286	86	13	185	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	540	583	185	-	0	0	372	0	0
Stage 1	211	211	-	-	-	-	-	-	-
Stage 2	329	372	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	503	424	857	0	-	-	1186	-	0
Stage 1	824	728	-	0	-	-	-	-	0
Stage 2	729	619	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	497	0	857	-	-	-	1186	-	-
Mov Cap-2 Maneuver	497	0	-	-	-	-	-	-	-
Stage 1	824	0	-	-	-	-	-	-	-
Stage 2	720	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	497	857	1186	-
HCM Lane V/C Ratio	-	-	0.182	0.252	0.011	-
HCM Control Delay (s)	-	-	13.8	10.6	8.1	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.7	1	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	137	167	30	148	179
Future Vol, veh/h	18	137	167	30	148	179
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	67	76	70	65	90	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	180	239	46	164	249

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	692	120	0	0	285	0
Stage 1	239	-	-	-	-	-
Stage 2	453	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	378	909	-	-	1274	-
Stage 1	778	-	-	-	-	-
Stage 2	607	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	329	909	-	-	1274	-
Mov Cap-2 Maneuver	427	-	-	-	-	-
Stage 1	778	-	-	-	-	-
Stage 2	529	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	427	909	1274	-
HCM Lane V/C Ratio	-	-	0.063	0.198	0.129	-
HCM Control Delay (s)	-	-	14	9.9	8.2	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.7	0.4	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	58	54	167	75	47	167
Future Vol, veh/h	58	54	167	75	47	167
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	84	84	74	57	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	64	199	101	82	190

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	458	100	0	0	300	0
Stage 1	199	-	-	-	-	-
Stage 2	259	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	531	936	-	-	1258	-
Stage 1	815	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	496	936	-	-	1258	-
Mov Cap-2 Maneuver	570	-	-	-	-	-
Stage 1	815	-	-	-	-	-
Stage 2	712	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	570	936	1258	-
HCM Lane V/C Ratio	-	-	0.114	0.069	0.066	-
HCM Control Delay (s)	-	-	12.1	9.1	8.1	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	0.2	-

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	122	113	41	47	171
Future Vol, veh/h	106	122	113	41	47	171
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	62	82	82	85	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	197	138	50	55	184

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	432	-	0	-	138	0
Stage 1	138	-	-	-	-	-
Stage 2	294	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	581	0	-	0	1446	-
Stage 1	889	0	-	0	-	-
Stage 2	756	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	559	-	-	-	1446	-
Mov Cap-2 Maneuver	559	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	727	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	559	-	1446	-
HCM Lane V/C Ratio	-	0.231	-	0.038	-
HCM Control Delay (s)	-	13.4	0	7.6	-
HCM Lane LOS	-	B	A	A	-
HCM 95th %tile Q(veh)	-	0.9	-	0.1	-

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	62	0	5	225	74	0	0	101	35
Future Vol, veh/h	0	0	0	62	0	5	225	74	0	0	101	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	64	92	50	96	64	92	92	79	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	97	0	10	234	116	0	0	128	65

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	745	777	116	193	0	-	-	-	0
Stage 1	584	584	-	-	-	-	-	-	-
Stage 2	161	193	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	382	328	936	1380	-	0	0	-	-
Stage 1	557	498	-	-	-	0	0	-	-
Stage 2	868	741	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	313	0	936	1380	-	-	-	-	-
Mov Cap-2 Maneuver	313	0	-	-	-	-	-	-	-
Stage 1	456	0	-	-	-	-	-	-	-
Stage 2	868	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.4	5.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1380	-	313	936	-	-
HCM Lane V/C Ratio	0.17	-	0.31	0.011	-	-
HCM Control Delay (s)	8.1	0	21.6	8.9	-	-
HCM Lane LOS	A	A	C	A	-	-
HCM 95th %tile Q(veh)	0.6	-	1.3	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	82	106	6	315	0	0	0	0	15	0	121
Future Vol, veh/h	0	82	106	6	315	0	0	0	0	15	0	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	77	77	50	81	92	92	92	92	81	92	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	106	138	12	389	0	0	0	0	19	0	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	244	0	0			588	657	389
Stage 1	-	-	-	-	-	-			413	413	-
Stage 2	-	-	-	-	-	-			175	244	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1322	-	0			471	385	659
Stage 1	0	-	-	-	-	0			668	594	-
Stage 2	0	-	-	-	-	0			855	704	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1322	-	-			465	0	659
Mov Cap-2 Maneuver	-	-	-	-	-	-			465	0	-
Stage 1	-	-	-	-	-	-			668	0	-
Stage 2	-	-	-	-	-	-			845	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1322	-	465	659
HCM Lane V/C Ratio	-	-	0.009	-	0.04	0.216
HCM Control Delay (s)	-	-	7.7	0	13.1	12
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.1	0.8

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	47	0	0	107	29	214	1	2	0	0	0
Future Vol, veh/h	51	47	0	0	107	29	214	1	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	92	92	70	62	88	25	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	55	0	0	153	47	243	4	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	200	0	-	-	-	0	342	365	55
Stage 1	-	-	-	-	-	-	165	165	-
Stage 2	-	-	-	-	-	-	177	200	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1372	-	0	0	-	-	654	563	1012
Stage 1	-	-	0	0	-	-	864	762	-
Stage 2	-	-	0	0	-	-	854	736	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1372	-	-	-	-	-	627	0	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	627	0	-
Stage 1	-	-	-	-	-	-	829	0	-
Stage 2	-	-	-	-	-	-	854	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.9	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	627	1012	1372	-	-	-
HCM Lane V/C Ratio	0.394	0.004	0.04	-	-	-
HCM Control Delay (s)	14.4	8.6	7.7	0	-	-
HCM Lane LOS	B	A	A	A	-	-
HCM 95th %tile Q(veh)	1.9	0	0.1	-	-	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	374	101	74	488	0	0	0	0	56	1	174
Future Vol, veh/h	0	374	101	74	488	0	0	0	0	56	1	174
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	76	70	92	92	92	92	92	82	25	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	407	133	106	530	0	0	0	0	68	4	212

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	407	0	0	1149	1149	530
Stage 1	-	-	-	-	-	-	742	742	-
Stage 2	-	-	-	-	-	-	407	407	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1152	-	0	219	198	549
Stage 1	0	-	0	-	-	0	471	422	-
Stage 2	0	-	0	-	-	0	672	597	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	-	-	-	1152	-	-	191	0	549
Mov Cap-2 Maneuver	-	-	-	-	-	-	191	0	-
Stage 1	-	-	-	-	-	-	471	0	-
Stage 2	-	-	-	-	-	-	585	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.4	20.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1152	-	191	549
HCM Lane V/C Ratio	-	0.092	-	0.378	0.387
HCM Control Delay (s)	-	8.4	0	34.9	15.6
HCM Lane LOS	-	A	A	D	C
HCM 95th %tile Q(veh)	-	0.3	-	1.6	1.8

Intersection	
Int Delay, s/veh	49.4

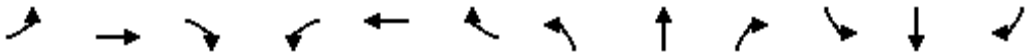
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	164	265	0	0	369	70	191	0	56	0	0	0
Future Vol, veh/h	164	265	0	0	369	70	191	0	56	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	345	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	81	92	92	82	80	80	92	77	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	189	327	0	0	450	88	239	0	73	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	450	0	-	-	-	0	1155	1155	327
Stage 1	-	-	-	-	-	-	705	705	-
Stage 2	-	-	-	-	-	-	450	450	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1110	-	0	0	-	0	~ 218	197	714
Stage 1	-	-	0	0	-	0	490	439	-
Stage 2	-	-	0	0	-	0	642	572	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1110	-	-	-	-	-	~ 173	0	714
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 173	0	-
Stage 1	-	-	-	-	-	-	388	0	-
Stage 2	-	-	-	-	-	-	642	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.3	0	196.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	173	714	1110	-	-
HCM Lane V/C Ratio	1.38	0.102	0.17	-	-
HCM Control Delay (s)	253.6	10.6	8.9	0	-
HCM Lane LOS	F	B	A	A	-
HCM 95th %tile Q(veh)	14.4	0.3	0.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	918	0	13	1057	6	3	36	17	239	7	46
Future Volume (veh/h)	39	918	0	13	1057	6	3	36	17	239	7	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	1031	0	19	1113	10	4	65	27	295	9	65
Peak Hour Factor	0.65	0.89	0.92	0.69	0.95	0.62	0.75	0.55	0.62	0.81	0.75	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1253	0	22	1183	11	38	280	330	70	0	330
Arrive On Green	0.04	0.67	0.00	0.01	0.64	0.64	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	1870	0	1781	1851	17	0	1347	1585	0	0	1585
Grp Volume(v), veh/h	60	1031	0	19	0	1123	69	0	27	304	0	65
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1867	1347	0	1585	0	0	1585
Q Serve(g_s), s	3.4	41.1	0.0	1.1	0.0	55.2	0.0	0.0	1.4	0.0	0.0	3.4
Cycle Q Clear(g_c), s	3.4	41.1	0.0	1.1	0.0	55.2	21.1	0.0	1.4	21.1	0.0	3.4
Prop In Lane	1.00		0.00	1.00		0.01	0.06		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	77	1253	0	22	0	1193	318	0	330	70	0	330
V/C Ratio(X)	0.78	0.82	0.00	0.85	0.00	0.94	0.22	0.00	0.08	4.34	0.00	0.20
Avail Cap(c_a), veh/h	123	1262	0	211	0	1352	318	0	330	70	0	330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.0	12.3	0.0	49.9	0.0	16.6	33.2	0.0	32.3	50.7	0.0	33.1
Incr Delay (d2), s/veh	15.2	4.5	0.0	53.4	0.0	12.1	0.3	0.0	0.1	1537.7	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	13.7	0.0	0.8	0.0	21.3	1.4	0.0	0.5	31.7	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.2	16.8	0.0	103.4	0.0	28.7	33.5	0.0	32.4	1588.3	0.0	33.4
LnGrp LOS	E	B	A	F	A	C	C	A	C	F	A	C
Approach Vol, veh/h		1091			1142			96			369	
Approach Delay, s/veh		19.4			30.0			33.2			1314.4	
Approach LOS		B			C			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	69.4		24.6	4.3	72.5		24.6				
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5				
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6				
Max Q Clear Time (g_c+I1), s	5.4	57.2		23.1	3.1	43.1		23.1				
Green Ext Time (p_c), s	0.0	7.6		0.0	0.0	8.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		201.5
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	996	13	22	1140	3	36	1	63	6	9	18
Future Volume (veh/h)	1	996	13	22	1140	3	36	1	63	6	9	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	1095	24	37	1163	8	78	4	78	10	13	36
Peak Hour Factor	0.25	0.91	0.55	0.59	0.98	0.38	0.46	0.25	0.81	0.62	0.67	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1165	26	47	1230	8	74	2	346	54	51	346
Arrive On Green	0.00	0.64	0.64	0.03	0.66	0.66	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	1823	40	1781	1855	13	0	9	1585	0	233	1585
Grp Volume(v), veh/h	4	0	1119	37	0	1171	82	0	78	23	0	36
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	0	1868	9	0	1585	233	0	1585
Q Serve(g_s), s	0.2	0.0	51.7	2.0	0.0	54.0	0.0	0.0	3.9	0.0	0.0	1.7
Cycle Q Clear(g_c), s	0.2	0.0	51.7	2.0	0.0	54.0	20.8	0.0	3.9	20.8	0.0	1.7
Prop In Lane	1.00		0.02	1.00		0.01	0.95		1.00	0.43		1.00
Lane Grp Cap(c), veh/h	4	0	1191	47	0	1238	76	0	346	105	0	346
V/C Ratio(X)	0.96	0.00	0.94	0.79	0.00	0.95	1.08	0.00	0.23	0.22	0.00	0.10
Avail Cap(c_a), veh/h	224	0	1343	224	0	1347	76	0	346	105	0	346
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.5	0.0	15.5	46.1	0.0	14.5	47.1	0.0	30.6	31.2	0.0	29.8
Incr Delay (d2), s/veh	192.7	0.0	12.1	25.3	0.0	13.1	127.9	0.0	0.3	1.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	19.5	1.1	0.0	20.0	4.5	0.0	1.5	0.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	240.3	0.0	27.6	71.4	0.0	27.6	175.0	0.0	31.0	32.3	0.0	29.9
LnGrp LOS	F	A	C	E	A	C	F	A	C	C	A	C
Approach Vol, veh/h		1123			1208			160			59	
Approach Delay, s/veh		28.3			28.9			104.8			30.8	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.2	67.8		24.3	5.5	65.5		24.3
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.7		* 21	12.0	68.7		20.3
Max Q Clear Time (g_c+I1), s	2.2	56.0		22.8	4.0	53.7		22.8
Green Ext Time (p_c), s	0.0	6.9		0.0	0.0	7.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	10.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	138	1035	23	35	955
Future Vol, veh/h	81	138	1035	23	35	955
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	0	50	-	340	330	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	150	1125	25	38	1038

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1720	563	0	-	1125	0
Stage 1	1125	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 80	470	-	0	617	-
Stage 1	272	-	-	0	-	-
Stage 2	514	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 75	470	-	-	617	-
Mov Cap-2 Maneuver	~ 75	-	-	-	-	-
Stage 1	272	-	-	-	-	-
Stage 2	482	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	104.9	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	75	470	617	-
HCM Lane V/C Ratio	-	1.174	0.319	0.062	-
HCM Control Delay (s)	-	256.1	16.2	11.2	-
HCM Lane LOS	-	F	C	B	-
HCM 95th %tile Q(veh)	-	6.6	1.4	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	0	163	0	0	0	0	286	45	5	102	0
Future Vol, veh/h	21	0	163	0	0	0	0	286	45	5	102	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	100	100	100	89	89	89	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	209	0	0	0	0	321	51	6	126	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	485	510	126	-	0	0	372	0	0
Stage 1	138	138	-	-	-	-	-	-	-
Stage 2	347	372	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	541	467	924	0	-	-	1186	-	0
Stage 1	889	782	-	0	-	-	-	-	0
Stage 2	716	619	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	538	0	924	-	-	-	1186	-	-
Mov Cap-2 Maneuver	538	0	-	-	-	-	-	-	-
Stage 1	889	0	-	-	-	-	-	-	-
Stage 2	712	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	538	924	1186	-
HCM Lane V/C Ratio	-	-	0.05	0.226	0.005	-
HCM Control Delay (s)	-	-	12	10	8.1	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.9	0	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	108	189	44	140	154
Future Vol, veh/h	25	108	189	44	140	154
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	70	70	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	133	270	63	175	193

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	717	135	0	0	333	0
Stage 1	270	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	364	889	-	-	1223	-
Stage 1	751	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	312	889	-	-	1223	-
Mov Cap-2 Maneuver	415	-	-	-	-	-
Stage 1	751	-	-	-	-	-
Stage 2	524	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	415	889	1223	-
HCM Lane V/C Ratio	-	-	0.074	0.15	0.143	-
HCM Control Delay (s)	-	-	14.4	9.8	8.4	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.5	0.5	-

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	51	51	185	93	37	135
Future Vol, veh/h	51	51	185	93	37	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	94	94	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	69	69	197	99	41	150

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	354	99	0	0	296	0
Stage 1	197	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	618	937	-	-	1262	-
Stage 1	817	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	598	937	-	-	1262	-
Mov Cap-2 Maneuver	648	-	-	-	-	-
Stage 1	817	-	-	-	-	-
Stage 2	828	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	648	937	1262	-
HCM Lane V/C Ratio	-	-	0.106	0.074	0.033	-
HCM Control Delay (s)	-	-	11.2	9.1	7.9	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	0.1	-

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	94	193	87	54	51	133
Future Vol, veh/h	94	193	87	54	51	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	98	98	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	224	89	55	62	162

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	375	-	0	-	89	0
Stage 1	89	-	-	-	-	-
Stage 2	286	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	626	0	-	0	1506	-
Stage 1	934	0	-	0	-	-
Stage 2	763	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	600	-	-	-	1506	-
Mov Cap-2 Maneuver	600	-	-	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	732	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	600	-	1506	-
HCM Lane V/C Ratio	-	0.182	-	0.041	-
HCM Control Delay (s)	-	12.3	0	7.5	-
HCM Lane LOS	-	B	A	A	-
HCM 95th %tile Q(veh)	-	0.7	-	0.1	-

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	70	0	5	276	38	0	0	69	39
Future Vol, veh/h	0	0	0	70	0	5	276	38	0	0	69	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	66	92	50	88	52	92	92	68	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	106	0	10	314	73	0	0	101	60

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	832	862	73	161	0	-	-	-	0	
Stage 1	701	701	-	-	-	-	-	-	-	
Stage 2	131	161	-	-	-	-	-	-	-	
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-	
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-	
Pot Cap-1 Maneuver	339	293	989	1418	-	0	0	-	-	
Stage 1	492	441	-	-	-	0	0	-	-	
Stage 2	895	765	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	261	0	989	1418	-	-	-	-	-	
Mov Cap-2 Maneuver	261	0	-	-	-	-	-	-	-	
Stage 1	378	0	-	-	-	-	-	-	-	
Stage 2	895	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	26.2	6.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1418	-	261	989	-	-
HCM Lane V/C Ratio	0.221	-	0.406	0.01	-	-
HCM Control Delay (s)	8.3	0	27.9	8.7	-	-
HCM Lane LOS	A	A	D	A	-	-
HCM 95th %tile Q(veh)	0.8	-	1.9	0	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	78	106	2	297	0	0	0	0	17	1	102
Future Vol, veh/h	0	78	106	2	297	0	0	0	0	17	1	102
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	89	82	50	85	92	92	92	92	54	25	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	88	129	4	349	0	0	0	0	31	4	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	217	0	0			510	574	349
Stage 1	-	-	-	-	-	-			357	357	-
Stage 2	-	-	-	-	-	-			153	217	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1353	-	0			523	429	694
Stage 1	0	-	-	-	-	0			708	628	-
Stage 2	0	-	-	-	-	0			875	723	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1353	-	-			521	0	694
Mov Cap-2 Maneuver	-	-	-	-	-	-			521	0	-
Stage 1	-	-	-	-	-	-			708	0	-
Stage 2	-	-	-	-	-	-			872	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1353	-	521	694
HCM Lane V/C Ratio	-	-	0.003	-	0.068	0.204
HCM Control Delay (s)	-	-	7.7	0	12.4	11.5
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.2	0.8

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	41	0	0	99	24	215	5	2	0	0	0
Future Vol, veh/h	51	41	0	0	99	24	215	5	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	92	92	72	66	83	50	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	59	0	0	138	36	259	10	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	174	0	-	-	-	0	363	381	59
Stage 1	-	-	-	-	-	-	207	207	-
Stage 2	-	-	-	-	-	-	156	174	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1403	-	0	0	-	-	636	552	1007
Stage 1	-	-	0	0	-	-	828	731	-
Stage 2	-	-	0	0	-	-	872	755	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1403	-	-	-	-	-	601	0	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	0	-
Stage 1	-	-	-	-	-	-	782	0	-
Stage 2	-	-	-	-	-	-	872	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.3	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	601	1007	1403	-	-	-
HCM Lane V/C Ratio	0.448	0.004	0.053	-	-	-
HCM Control Delay (s)	15.8	8.6	7.7	0	-	-
HCM Lane LOS	C	A	A	A	-	-
HCM 95th %tile Q(veh)	2.3	0	0.2	-	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	427	94	59	437	0	0	0	0	49	0	200
Future Vol, veh/h	0	427	94	59	437	0	0	0	0	49	0	200
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	85	91	97	92	92	92	92	67	92	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	464	111	65	451	0	0	0	0	73	0	215

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	464	0	0			1045	1045	451
Stage 1	-	-	-	-	-	-			581	581	-
Stage 2	-	-	-	-	-	-			464	464	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1097	-	0			253	229	608
Stage 1	0	-	0	-	-	0			559	500	-
Stage 2	0	-	0	-	-	0			633	564	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1097	-	-			233	0	608
Mov Cap-2 Maneuver	-	-	-	-	-	-			233	0	-
Stage 1	-	-	-	-	-	-			559	0	-
Stage 2	-	-	-	-	-	-			583	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.1	17.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1097	-	233	608
HCM Lane V/C Ratio	-	0.059	-	0.314	0.354
HCM Control Delay (s)	-	8.5	0	27.4	14.1
HCM Lane LOS	-	A	A	D	B
HCM 95th %tile Q(veh)	-	0.2	-	1.3	1.6

Intersection	
Int Delay, s/veh	26.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	214	267	0	0	353	71	143	1	35	0	0	0
Future Vol, veh/h	214	267	0	0	353	71	143	1	35	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	345	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	87	92	92	94	78	86	25	83	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	252	307	0	0	376	91	166	4	42	0	0	0

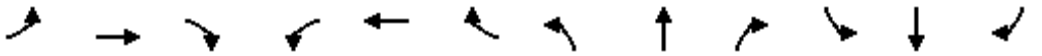
Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	376	0	-	-	-	0	1187	1187	307
Stage 1	-	-	-	-	-	-	811	811	-
Stage 2	-	-	-	-	-	-	376	376	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1182	-	0	0	-	0	208	188	733
Stage 1	-	-	0	0	-	0	437	393	-
Stage 2	-	-	0	0	-	0	694	616	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1182	-	-	-	-	-	~ 155	0	733
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 155	0	-
Stage 1	-	-	-	-	-	-	325	0	-
Stage 2	-	-	-	-	-	-	694	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4	0	130.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	155	733	1182	-	-
HCM Lane V/C Ratio	1.099	0.058	0.213	-	-
HCM Control Delay (s)	159.8	10.2	8.9	0	-
HCM Lane LOS	F	B	A	A	-
HCM 95th %tile Q(veh)	9	0.2	0.8	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	992	1	8	1009	6	7	26	17	245	8	76
Future Volume (veh/h)	41	992	1	8	1009	6	7	26	17	245	8	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	1067	4	18	1134	10	14	32	36	285	9	93
Peak Hour Factor	0.60	0.93	0.25	0.44	0.89	0.62	0.50	0.82	0.47	0.86	0.88	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	1269	5	21	1192	11	45	80	319	68	0	319
Arrive On Green	0.05	0.68	0.68	0.01	0.64	0.64	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1862	7	1781	1851	16	0	396	1585	0	0	1585
Grp Volume(v), veh/h	68	0	1071	18	0	1144	46	0	36	294	0	93
Grp Sat Flow(s),veh/h/ln	1781	0	1869	1781	0	1867	396	0	1585	0	0	1585
Q Serve(g_s), s	4.0	0.0	44.9	1.1	0.0	59.1	0.0	0.0	1.9	0.0	0.0	5.2
Cycle Q Clear(g_c), s	4.0	0.0	44.9	1.1	0.0	59.1	21.1	0.0	1.9	21.1	0.0	5.2
Prop In Lane	1.00		0.00	1.00		0.01	0.30		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	87	0	1273	21	0	1203	124	0	319	68	0	319
V/C Ratio(X)	0.78	0.00	0.84	0.85	0.00	0.95	0.37	0.00	0.11	4.35	0.00	0.29
Avail Cap(c_a), veh/h	119	0	1273	204	0	1306	124	0	319	68	0	319
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.3	0.0	12.5	51.8	0.0	17.2	35.7	0.0	34.3	52.5	0.0	35.6
Incr Delay (d2), s/veh	19.9	0.0	5.2	55.9	0.0	14.2	1.8	0.0	0.2	1542.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	15.1	0.8	0.0	23.6	1.0	0.0	0.8	30.7	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.2	0.0	17.7	107.7	0.0	31.4	37.5	0.0	34.4	1595.1	0.0	36.1
LnGrp LOS	E	A	B	F	A	C	D	A	C	F	A	D
Approach Vol, veh/h		1139			1162			82			387	
Approach Delay, s/veh		20.8			32.6			36.2			1220.5	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	72.2		24.6	4.3	76.1		24.6				
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5				
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6				
Max Q Clear Time (g_c+I1), s	6.0	61.1		23.1	3.1	46.9		23.1				
Green Ext Time (p_c), s	0.0	6.6		0.0	0.0	8.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			193.8									
HCM 6th LOS			F									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1065	9	21	1150	0	38	5	51	6	6	22
Future Volume (veh/h)	9	1065	9	21	1150	0	38	5	51	6	6	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1098	18	47	1186	0	69	10	70	19	14	32
Peak Hour Factor	0.50	0.97	0.50	0.45	0.97	0.92	0.55	0.50	0.73	0.31	0.42	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	1173	19	60	1237	0	68	6	340	58	28	340
Arrive On Green	0.01	0.64	0.64	0.03	0.66	0.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	1835	30	1781	1870	0	0	26	1585	0	131	1585
Grp Volume(v), veh/h	18	0	1116	47	1186	0	79	0	70	33	0	32
Grp Sat Flow(s),veh/h/ln	1781	0	1865	1781	1870	0	26	0	1585	131	0	1585
Q Serve(g_s), s	1.0	0.0	53.0	2.6	57.8	0.0	0.0	0.0	3.6	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.0	0.0	53.0	2.6	57.8	0.0	21.1	0.0	3.6	21.1	0.0	1.6
Prop In Lane	1.00		0.02	1.00		0.00	0.87		1.00	0.58		1.00
Lane Grp Cap(c), veh/h	21	0	1192	60	1237	0	74	0	340	86	0	340
V/C Ratio(X)	0.85	0.00	0.94	0.78	0.96	0.00	1.07	0.00	0.21	0.39	0.00	0.09
Avail Cap(c_a), veh/h	217	0	1295	217	1299	0	74	0	340	86	0	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	16.0	47.2	15.4	0.0	47.7	0.0	31.8	32.9	0.0	31.0
Incr Delay (d2), s/veh	57.2	0.0	12.2	19.0	15.8	0.0	124.4	0.0	0.3	2.8	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	20.3	1.4	22.5	0.0	4.4	0.0	1.4	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	105.8	0.0	28.2	66.2	31.3	0.0	172.1	0.0	32.1	35.7	0.0	31.1
LnGrp LOS	F	A	C	E	C	A	F	A	C	D	A	C
Approach Vol, veh/h		1134			1233			149			65	
Approach Delay, s/veh		29.4			32.6			106.3			33.5	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	69.7		24.6	6.3	67.5		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	3.0	59.8		23.1	4.6	55.0		23.1
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	6.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	11.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	92	932	46	23	1415
Future Vol, veh/h	81	92	932	46	23	1415
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	0	50	-	340	330	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	100	1013	50	25	1538

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1832	507	0	-	1013	0
Stage 1	1013	-	-	-	-	-
Stage 2	819	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 68	511	-	0	680	-
Stage 1	312	-	-	0	-	-
Stage 2	394	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 65	511	-	-	680	-
Mov Cap-2 Maneuver	~ 65	-	-	-	-	-
Stage 1	312	-	-	-	-	-
Stage 2	379	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	166.8	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	65	511	680	-
HCM Lane V/C Ratio	-	1.355	0.196	0.037	-
HCM Control Delay (s)	-	$ 340.5	13.8	10.5	-
HCM Lane LOS	-	F	B	B	-
HCM 95th %tile Q(veh)	-	7.4	0.7	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↑	↱		↰	
Traffic Vol, veh/h	32	2	232	0	0	0	0	313	86	9	181	0
Future Vol, veh/h	32	2	232	0	0	0	0	313	86	9	181	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	37	50	80	100	100	100	89	84	74	67	86	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	4	290	0	0	0	0	373	116	13	210	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	667	725	210				-	0	0	489	0	0
Stage 1	236	236	-				-	-	-	-	-	-
Stage 2	431	489	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				-	-	-	2.218	-	-
Pot Cap-1 Maneuver	424	352	830				0	-	-	1074	-	0
Stage 1	803	710	-				0	-	-	-	-	0
Stage 2	655	549	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	418	0	830				-	-	-	1074	-	-
Mov Cap-2 Maneuver	418	0	-				-	-	-	-	-	-
Stage 1	803	0	-				-	-	-	-	-	-
Stage 2	646	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	418	830	1074	-
HCM Lane V/C Ratio	-	-	0.216	0.349	0.013	-
HCM Control Delay (s)	-	-	16	11.6	8.4	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	1.6	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	137	261	30	148	259
Future Vol, veh/h	18	137	261	30	148	259
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	67	76	70	65	90	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	180	373	46	164	360

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	881	187	0	0	419	0
Stage 1	373	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	286	823	-	-	1137	-
Stage 1	666	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	245	823	-	-	1137	-
Mov Cap-2 Maneuver	364	-	-	-	-	-
Stage 1	666	-	-	-	-	-
Stage 2	487	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	364	823	1137	-
HCM Lane V/C Ratio	-	-	0.074	0.219	0.145	-
HCM Control Delay (s)	-	-	15.7	10.6	8.7	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.8	0.5	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	80	105	211	75	62	233
Future Vol, veh/h	80	105	211	75	62	233
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	84	84	74	57	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	125	251	101	109	265

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	602	126	0	0	352	0
Stage 1	251	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	431	901	-	-	1203	-
Stage 1	768	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	392	901	-	-	1203	-
Mov Cap-2 Maneuver	488	-	-	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	622	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	488	901	1203	-
HCM Lane V/C Ratio	-	-	0.184	0.139	0.09	-
HCM Control Delay (s)	-	-	14	9.6	8.3	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.5	0.3	-

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	130	172	41	55	215
Future Vol, veh/h	106	130	172	41	55	215
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	62	82	82	85	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	210	210	50	65	231

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	571	-	0	-	210	0
Stage 1	210	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	482	0	-	0	1361	-
Stage 1	825	0	-	0	-	-
Stage 2	705	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	459	-	-	-	1361	-
Mov Cap-2 Maneuver	459	-	-	-	-	-
Stage 1	825	-	-	-	-	-
Stage 2	671	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.9	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	459	-	1361	-
HCM Lane V/C Ratio	-	0.282	-	0.048	-
HCM Control Delay (s)	-	15.9	0	7.8	-
HCM Lane LOS	-	C	A	A	-
HCM 95th %tile Q(veh)	-	1.1	-	0.1	-

Intersection	
Int Delay, s/veh	10.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	84	0	5	298	74	0	0	101	35
Future Vol, veh/h	0	0	0	84	0	5	298	74	0	0	101	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	64	92	50	96	64	92	92	79	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	131	0	10	310	116	0	0	128	65

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	897	929	116	193	0	-	-	-	0
Stage 1	736	736	-	-	-	-	-	-	-
Stage 2	161	193	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	310	268	936	1380	-	0	0	-	-
Stage 1	474	425	-	-	-	0	0	-	-
Stage 2	868	741	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	236	0	936	1380	-	-	-	-	-
Mov Cap-2 Maneuver	236	0	-	-	-	-	-	-	-
Stage 1	360	0	-	-	-	-	-	-	-
Stage 2	868	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	35.8	6.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1380	-	236	936	-	-
HCM Lane V/C Ratio	0.225	-	0.556	0.011	-	-
HCM Control Delay (s)	8.4	0	37.8	8.9	-	-
HCM Lane LOS	A	A	E	A	-	-
HCM 95th %tile Q(veh)	0.9	-	3	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	82	121	6	330	0	0	0	0	15	0	121
Future Vol, veh/h	0	82	121	6	330	0	0	0	0	15	0	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	77	77	50	81	92	92	92	92	81	92	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	106	157	12	407	0	0	0	0	19	0	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	263	0	0			616	694	407
Stage 1	-	-	-	-	-	-			431	431	-
Stage 2	-	-	-	-	-	-			185	263	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1301	-	0			454	366	644
Stage 1	0	-	-	-	-	0			655	583	-
Stage 2	0	-	-	-	-	0			847	691	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1301	-	-			449	0	644
Mov Cap-2 Maneuver	-	-	-	-	-	-			449	0	-
Stage 1	-	-	-	-	-	-			655	0	-
Stage 2	-	-	-	-	-	-			837	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1301	-	449	644
HCM Lane V/C Ratio	-	-	0.009	-	0.041	0.221
HCM Control Delay (s)	-	-	7.8	0	13.4	12.2
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.1	0.8

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	47	0	0	107	29	229	1	2	0	0	0
Future Vol, veh/h	51	47	0	0	107	29	229	1	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	92	92	70	62	88	25	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	55	0	0	153	47	260	4	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	200	0	-	-	-	0	342	365	55
Stage 1	-	-	-	-	-	-	165	165	-
Stage 2	-	-	-	-	-	-	177	200	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1372	-	0	0	-	-	654	563	1012
Stage 1	-	-	0	0	-	-	864	762	-
Stage 2	-	-	0	0	-	-	854	736	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1372	-	-	-	-	-	627	0	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	627	0	-
Stage 1	-	-	-	-	-	-	829	0	-
Stage 2	-	-	-	-	-	-	854	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.9	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	627	1012	1372	-	-	-
HCM Lane V/C Ratio	0.421	0.004	0.04	-	-	-
HCM Control Delay (s)	14.9	8.6	7.7	0	-	-
HCM Lane LOS	B	A	A	A	-	-
HCM 95th %tile Q(veh)	2.1	0	0.1	-	-	-

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	382	101	82	496	0	0	0	0	56	1	174
Future Vol, veh/h	0	382	101	82	496	0	0	0	0	56	1	174
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	76	70	92	92	92	92	92	82	25	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	415	133	117	539	0	0	0	0	68	4	212

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	415	0	0			1188	1188	539
Stage 1	-	-	-	-	-	-			773	773	-
Stage 2	-	-	-	-	-	-			415	415	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1144	-	0			208	188	542
Stage 1	0	-	0	-	-	0			455	409	-
Stage 2	0	-	0	-	-	0			666	592	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1144	-	-			178	0	542
Mov Cap-2 Maneuver	-	-	-	-	-	-			178	0	-
Stage 1	-	-	-	-	-	-			455	0	-
Stage 2	-	-	-	-	-	-			569	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.5	21.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1144	-	178	542
HCM Lane V/C Ratio	-	0.102	-	0.406	0.392
HCM Control Delay (s)	-	8.5	0	38.4	15.9
HCM Lane LOS	-	A	A	E	C
HCM 95th %tile Q(veh)	-	0.3	-	1.8	1.8

Intersection	
Int Delay, s/veh	54.1

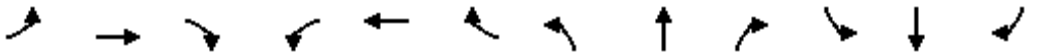
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	164	273	0	0	384	70	191	0	64	0	0	0
Future Vol, veh/h	164	273	0	0	384	70	191	0	64	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	345	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	81	92	92	82	80	80	92	77	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	189	337	0	0	468	88	239	0	83	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	468	0	-	-	-	0	1183	1183	337
Stage 1	-	-	-	-	-	-	715	715	-
Stage 2	-	-	-	-	-	-	468	468	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1094	-	0	0	-	0	~ 209	189	705
Stage 1	-	-	0	0	-	0	485	434	-
Stage 2	-	-	0	0	-	0	630	561	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1094	-	-	-	-	-	~ 164	0	705
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 164	0	-
Stage 1	-	-	-	-	-	-	382	0	-
Stage 2	-	-	-	-	-	-	630	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.2	0	215.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	164	705	1094	-	-
HCM Lane V/C Ratio	1.456	0.118	0.172	-	-
HCM Control Delay (s)	287.3	10.8	9	0	-
HCM Lane LOS	F	B	A	A	-
HCM 95th %tile Q(veh)	15.2	0.4	0.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	933	0	13	1072	6	3	36	17	239	7	46
Future Volume (veh/h)	39	933	0	13	1072	6	3	36	17	239	7	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	1048	0	19	1128	10	4	65	27	295	9	65
Peak Hour Factor	0.65	0.89	0.92	0.69	0.95	0.62	0.75	0.55	0.62	0.81	0.75	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1262	0	23	1192	11	37	276	325	69	0	325
Arrive On Green	0.04	0.67	0.00	0.01	0.64	0.64	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1870	0	1781	1851	16	0	1347	1585	0	0	1585
Grp Volume(v), veh/h	60	1048	0	19	0	1138	69	0	27	304	0	65
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1867	1347	0	1585	0	0	1585
Q Serve(g_s), s	3.4	42.7	0.0	1.1	0.0	57.2	0.0	0.0	1.4	0.0	0.0	3.5
Cycle Q Clear(g_c), s	3.4	42.7	0.0	1.1	0.0	57.2	21.1	0.0	1.4	21.1	0.0	3.5
Prop In Lane	1.00		0.00	1.00		0.01	0.06		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	77	1262	0	23	0	1203	313	0	325	69	0	325
V/C Ratio(X)	0.78	0.83	0.00	0.84	0.00	0.95	0.22	0.00	0.08	4.41	0.00	0.20
Avail Cap(c_a), veh/h	121	1262	0	208	0	1331	313	0	325	69	0	325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.8	12.4	0.0	50.8	0.0	16.7	34.0	0.0	33.1	51.5	0.0	34.0
Incr Delay (d2), s/veh	15.2	4.8	0.0	53.1	0.0	13.2	0.4	0.0	0.1	1569.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	14.4	0.0	0.8	0.0	22.4	1.5	0.0	0.6	31.8	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	17.2	0.0	103.9	0.0	29.9	34.3	0.0	33.2	1621.1	0.0	34.3
LnGrp LOS	E	B	A	F	A	C	C	A	C	F	A	C
Approach Vol, veh/h		1108			1157			96			369	
Approach Delay, s/veh		19.7			31.1			34.0			1341.6	
Approach LOS		B			C			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	70.9		24.6	4.3	74.1		24.6				
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5				
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6				
Max Q Clear Time (g_c+I1), s	5.4	59.2		23.1	3.1	44.7		23.1				
Green Ext Time (p_c), s	0.0	7.1		0.0	0.0	8.1		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	203.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1011	13	22	1155	3	36	1	63	6	9	18
Future Volume (veh/h)	1	1011	13	22	1155	3	36	1	63	6	9	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	1111	24	37	1179	8	78	4	78	10	13	36
Peak Hour Factor	0.25	0.91	0.55	0.59	0.98	0.38	0.46	0.25	0.81	0.62	0.67	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1173	25	47	1238	8	72	2	343	53	50	343
Arrive On Green	0.00	0.64	0.64	0.03	0.67	0.67	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	1824	39	1781	1856	13	0	9	1585	0	230	1585
Grp Volume(v), veh/h	4	0	1135	37	0	1187	82	0	78	23	0	36
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	0	1868	9	0	1585	230	0	1585
Q Serve(g_s), s	0.2	0.0	54.2	2.0	0.0	56.5	0.0	0.0	3.9	0.0	0.0	1.8
Cycle Q Clear(g_c), s	0.2	0.0	54.2	2.0	0.0	56.5	21.1	0.0	3.9	21.1	0.0	1.8
Prop In Lane	1.00		0.02	1.00		0.01	0.95		1.00	0.43		1.00
Lane Grp Cap(c), veh/h	4	0	1198	47	0	1246	74	0	343	103	0	343
V/C Ratio(X)	0.96	0.00	0.95	0.79	0.00	0.95	1.11	0.00	0.23	0.22	0.00	0.10
Avail Cap(c_a), veh/h	220	0	1309	220	0	1312	74	0	343	103	0	343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	15.9	47.1	0.0	14.8	48.1	0.0	31.4	32.0	0.0	30.6
Incr Delay (d2), s/veh	192.4	0.0	13.6	25.1	0.0	14.7	136.5	0.0	0.3	1.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	20.9	1.2	0.0	21.4	4.6	0.0	1.6	0.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	240.9	0.0	29.4	72.2	0.0	29.5	184.6	0.0	31.7	33.1	0.0	30.7
LnGrp LOS	F	A	C	E	A	C	F	A	C	C	A	C
Approach Vol, veh/h		1139			1224			160			59	
Approach Delay, s/veh		30.2			30.8			110.1			31.6	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.2	69.5		24.6	5.6	67.2		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	2.2	58.5		23.1	4.0	56.2		23.1
Green Ext Time (p_c), s	0.0	5.9		0.0	0.0	6.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	12

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	146	1050	23	43	970
Future Vol, veh/h	81	146	1050	23	43	970
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	0	50	-	340	330	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	159	1141	25	47	1054

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1762	571	0	-	1141	0
Stage 1	1141	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 75	464	-	0	608	-
Stage 1	267	-	-	0	-	-
Stage 2	498	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 69	464	-	-	608	-
Mov Cap-2 Maneuver	~ 69	-	-	-	-	-
Stage 1	267	-	-	-	-	-
Stage 2	460	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	118.9	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	69	464	608	-
HCM Lane V/C Ratio	-	1.276	0.342	0.077	-
HCM Control Delay (s)	-	$ 303.2	16.7	11.4	-
HCM Lane LOS	-	F	C	B	-
HCM 95th %tile Q(veh)	-	7.1	1.5	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	44	0	66	66	22
Future Vol, veh/h	29	44	0	66	66	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	48	0	72	72	24

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	156	0	0	0	72	0
Stage 1	0	-	-	-	-	-
Stage 2	156	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	820	-	-	-	1526	-
Stage 1	-	-	-	-	-	-
Stage 2	856	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	781	-	-	-	1526	-
Mov Cap-2 Maneuver	746	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	816	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	5.6
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1526	-
HCM Lane V/C Ratio	-	-	-	0.047	-
HCM Control Delay (s)	-	-	-	7.5	-
HCM Lane LOS	-	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	0	222	0	0	0	0	359	67	5	124	0
Future Vol, veh/h	21	0	222	0	0	0	0	359	67	5	124	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	100	100	100	89	89	89	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	285	0	0	0	0	403	75	6	153	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	606	643	153	-	0	0	478	0	0
Stage 1	165	165	-	-	-	-	-	-	-
Stage 2	441	478	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	460	392	893	0	-	-	1084	-	0
Stage 1	864	762	-	0	-	-	-	-	0
Stage 2	648	556	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	457	0	893	-	-	-	1084	-	-
Mov Cap-2 Maneuver	457	0	-	-	-	-	-	-	-
Stage 1	864	0	-	-	-	-	-	-	-
Stage 2	644	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	457	893	1084	-
HCM Lane V/C Ratio	-	-	0.059	0.319	0.006	-
HCM Control Delay (s)	-	-	13.4	10.9	8.3	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	1.4	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	108	283	44	140	234
Future Vol, veh/h	25	108	283	44	140	234
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	70	70	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	133	404	63	175	293

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	901	202	0	0	467	0
Stage 1	404	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	278	805	-	-	1091	-
Stage 1	643	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	234	805	-	-	1091	-
Mov Cap-2 Maneuver	356	-	-	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	485	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	356	805	1091	-
HCM Lane V/C Ratio	-	-	0.087	0.166	0.16	-
HCM Control Delay (s)	-	-	16.1	10.4	8.9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.6	0.6	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	102	229	93	52	201
Future Vol, veh/h	73	102	229	93	52	201
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	94	94	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	99	138	244	99	58	223

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	472	122	0	0	343	0
Stage 1	244	-	-	-	-	-
Stage 2	228	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	521	906	-	-	1213	-
Stage 1	774	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	496	906	-	-	1213	-
Mov Cap-2 Maneuver	574	-	-	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	574	906	1213	-
HCM Lane V/C Ratio	-	-	0.172	0.152	0.048	-
HCM Control Delay (s)	-	-	12.6	9.7	8.1	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.5	0.1	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	94	201	146	54	59	177
Future Vol, veh/h	94	201	146	54	59	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	98	98	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	234	149	55	72	216

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	509	-	0	-	149	0
Stage 1	149	-	-	-	-	-
Stage 2	360	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	524	0	-	0	1432	-
Stage 1	879	0	-	0	-	-
Stage 2	706	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	498	-	-	-	1432	-
Mov Cap-2 Maneuver	498	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	671	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	498	-	1432	-
HCM Lane V/C Ratio	-	0.219	-	0.05	-
HCM Control Delay (s)	-	14.3	0	7.6	-
HCM Lane LOS	-	B	A	A	-
HCM 95th %tile Q(veh)	-	0.8	-	0.2	-

Intersection	
Int Delay, s/veh	15.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	92	0	5	349	38	0	0	69	39
Future Vol, veh/h	0	0	0	92	0	5	349	38	0	0	69	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	66	92	50	88	52	92	92	68	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	139	0	10	397	73	0	0	101	60

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	998	1028	73	161	0	-	-	-	0
Stage 1	867	867	-	-	-	-	-	-	-
Stage 2	131	161	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	270	234	989	1418	-	0	0	-	-
Stage 1	411	370	-	-	-	0	0	-	-
Stage 2	895	765	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	191	0	989	1418	-	-	-	-	-
Mov Cap-2 Maneuver	191	0	-	-	-	-	-	-	-
Stage 1	291	0	-	-	-	-	-	-	-
Stage 2	895	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	58.9	7.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1418	-	191	989	-	-
HCM Lane V/C Ratio	0.28	-	0.73	0.01	-	-
HCM Control Delay (s)	8.5	0	62.5	8.7	-	-
HCM Lane LOS	A	A	F	A	-	-
HCM 95th %tile Q(veh)	1.2	-	4.7	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	78	121	2	312	0	0	0	0	17	1	102
Future Vol, veh/h	0	78	121	2	312	0	0	0	0	17	1	102
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	89	82	50	85	92	92	92	92	54	25	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	88	148	4	367	0	0	0	0	31	4	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	236	0	0			537	611	367
Stage 1	-	-	-	-	-	-			375	375	-
Stage 2	-	-	-	-	-	-			162	236	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1331	-	0			505	409	678
Stage 1	0	-	-	-	-	0			695	617	-
Stage 2	0	-	-	-	-	0			867	710	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1331	-	-			503	0	678
Mov Cap-2 Maneuver	-	-	-	-	-	-			503	0	-
Stage 1	-	-	-	-	-	-			695	0	-
Stage 2	-	-	-	-	-	-			864	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1331	-	503	678
HCM Lane V/C Ratio	-	-	0.003	-	0.071	0.209
HCM Control Delay (s)	-	-	7.7	0	12.7	11.7
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.2	0.8

Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	41	0	0	99	24	230	5	2	0	0	0
Future Vol, veh/h	51	41	0	0	99	24	230	5	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	92	92	72	66	83	50	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	59	0	0	138	36	277	10	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	174	0	-	-	-	0	363	381	59
Stage 1	-	-	-	-	-	-	207	207	-
Stage 2	-	-	-	-	-	-	156	174	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1403	-	0	0	-	-	636	552	1007
Stage 1	-	-	0	0	-	-	828	731	-
Stage 2	-	-	0	0	-	-	872	755	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1403	-	-	-	-	-	601	0	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	0	-
Stage 1	-	-	-	-	-	-	782	0	-
Stage 2	-	-	-	-	-	-	872	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.3	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	601	1007	1403	-	-	-
HCM Lane V/C Ratio	0.478	0.004	0.053	-	-	-
HCM Control Delay (s)	16.3	8.6	7.7	0	-	-
HCM Lane LOS	C	A	A	A	-	-
HCM 95th %tile Q(veh)	2.6	0	0.2	-	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	435	94	67	445	0	0	0	0	49	0	200
Future Vol, veh/h	0	435	94	67	445	0	0	0	0	49	0	200
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	85	91	97	92	92	92	92	67	92	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	473	111	74	459	0	0	0	0	73	0	215

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	473	0	0			1080	1080	459
Stage 1	-	-	-	-	-	-			607	607	-
Stage 2	-	-	-	-	-	-			473	473	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1089	-	0			241	218	602
Stage 1	0	-	0	-	-	0			544	486	-
Stage 2	0	-	0	-	-	0			627	558	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1089	-	-			219	0	602
Mov Cap-2 Maneuver	-	-	-	-	-	-			219	0	-
Stage 1	-	-	-	-	-	-			544	0	-
Stage 2	-	-	-	-	-	-			570	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.2	18.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1089	-	219	602
HCM Lane V/C Ratio	-	0.068	-	0.334	0.357
HCM Control Delay (s)	-	8.5	0	29.5	14.3
HCM Lane LOS	-	A	A	D	B
HCM 95th %tile Q(veh)	-	0.2	-	1.4	1.6

Intersection	
Int Delay, s/veh	28.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	214	275	0	0	368	71	143	1	43	0	0	0
Future Vol, veh/h	214	275	0	0	368	71	143	1	43	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	345	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	87	92	92	94	78	86	25	83	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	252	316	0	0	391	91	166	4	52	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	391	0	-	-	-	0	1211	1211	316
Stage 1	-	-	-	-	-	-	820	820	-
Stage 2	-	-	-	-	-	-	391	391	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1168	-	0	0	-	0	201	182	724
Stage 1	-	-	0	0	-	0	433	389	-
Stage 2	-	-	0	0	-	0	683	607	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1168	-	-	-	-	-	~ 148	0	724
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 148	0	-
Stage 1	-	-	-	-	-	-	320	0	-
Stage 2	-	-	-	-	-	-	683	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4	0	140.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	148	724	1168	-	-
HCM Lane V/C Ratio	1.151	0.072	0.216	-	-
HCM Control Delay (s)	180.4	10.4	8.9	0	-
HCM Lane LOS	F	B	A	A	-
HCM 95th %tile Q(veh)	9.5	0.2	0.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	1007	1	8	1024	6	7	26	17	245	8	76
Future Volume (veh/h)	41	1007	1	8	1024	6	7	26	17	245	8	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	1083	4	18	1151	10	14	32	36	285	9	93
Peak Hour Factor	0.60	0.93	0.25	0.44	0.89	0.62	0.50	0.82	0.47	0.86	0.88	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	1278	5	21	1202	10	44	78	314	66	0	314
Arrive On Green	0.05	0.69	0.69	0.01	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1862	7	1781	1851	16	0	396	1585	0	0	1585
Grp Volume(v), veh/h	68	0	1087	18	0	1161	46	0	36	294	0	93
Grp Sat Flow(s),veh/h/ln	1781	0	1869	1781	0	1867	396	0	1585	0	0	1585
Q Serve(g_s), s	4.0	0.0	46.5	1.1	0.0	61.5	0.0	0.0	2.0	0.0	0.0	5.3
Cycle Q Clear(g_c), s	4.0	0.0	46.5	1.1	0.0	61.5	21.1	0.0	2.0	21.1	0.0	5.3
Prop In Lane	1.00		0.00	1.00		0.01	0.30		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	87	0	1283	21	0	1212	122	0	314	66	0	314
V/C Ratio(X)	0.78	0.00	0.85	0.85	0.00	0.96	0.38	0.00	0.11	4.42	0.00	0.30
Avail Cap(c_a), veh/h	117	0	1283	200	0	1285	122	0	314	66	0	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.1	0.0	12.6	52.6	0.0	17.4	36.5	0.0	35.1	53.3	0.0	36.5
Incr Delay (d2), s/veh	20.7	0.0	5.5	55.6	0.0	15.7	1.9	0.0	0.2	1574.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	15.7	0.8	0.0	24.9	1.1	0.0	0.8	30.9	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.8	0.0	18.0	108.2	0.0	33.0	38.4	0.0	35.3	1628.1	0.0	37.0
LnGrp LOS	E	A	B	F	A	C	D	A	D	F	A	D
Approach Vol, veh/h		1155			1179			82			387	
Approach Delay, s/veh		21.2			34.2			37.0			1245.7	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	73.8		24.6	4.3	77.8		24.6				
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5				
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6				
Max Q Clear Time (g_c+I1), s	6.0	63.5		23.1	3.1	48.5		23.1				
Green Ext Time (p_c), s	0.0	5.7		0.0	0.0	8.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		196.2
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1080	9	21	1165	0	38	5	51	6	6	22
Future Volume (veh/h)	9	1080	9	21	1165	0	38	5	51	6	6	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1113	18	47	1201	0	69	10	70	19	14	32
Peak Hour Factor	0.50	0.97	0.50	0.45	0.97	0.92	0.55	0.50	0.73	0.31	0.42	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	1180	19	60	1243	0	68	5	336	57	28	336
Arrive On Green	0.01	0.64	0.64	0.03	0.66	0.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	1835	30	1781	1870	0	0	26	1585	0	131	1585
Grp Volume(v), veh/h	18	0	1131	47	1201	0	79	0	70	33	0	32
Grp Sat Flow(s),veh/h/ln	1781	0	1865	1781	1870	0	26	0	1585	131	0	1585
Q Serve(g_s), s	1.0	0.0	54.8	2.6	59.9	0.0	0.0	0.0	3.6	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.0	0.0	54.8	2.6	59.9	0.0	21.1	0.0	3.6	21.1	0.0	1.6
Prop In Lane	1.00		0.02	1.00		0.00	0.87		1.00	0.58		1.00
Lane Grp Cap(c), veh/h	21	0	1199	60	1243	0	73	0	336	85	0	336
V/C Ratio(X)	0.85	0.00	0.94	0.78	0.97	0.00	1.08	0.00	0.21	0.39	0.00	0.10
Avail Cap(c_a), veh/h	215	0	1281	215	1285	0	73	0	336	85	0	336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.1	0.0	16.1	47.7	15.6	0.0	48.2	0.0	32.3	33.4	0.0	31.6
Incr Delay (d2), s/veh	57.0	0.0	13.4	19.0	17.3	0.0	128.6	0.0	0.3	2.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	21.3	1.4	23.6	0.0	4.4	0.0	1.4	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.1	0.0	29.6	66.7	33.0	0.0	176.9	0.0	32.7	36.3	0.0	31.7
LnGrp LOS	F	A	C	E	C	A	F	A	C	D	A	C
Approach Vol, veh/h		1149			1248			149			65	
Approach Delay, s/veh		30.8			34.2			109.1			34.0	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	70.8		24.6	6.4	68.6		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	3.0	61.9		23.1	4.6	56.8		23.1
Green Ext Time (p_c), s	0.0	4.3		0.0	0.0	6.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	13

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	100	947	46	31	1430
Future Vol, veh/h	81	100	947	46	31	1430
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	0	50	-	340	330	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	109	1029	50	34	1554

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1874	515	0	-	1029	0
Stage 1	1029	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 63	505	-	0	671	-
Stage 1	306	-	-	0	-	-
Stage 2	382	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 60	505	-	-	671	-
Mov Cap-2 Maneuver	~ 60	-	-	-	-	-
Stage 1	306	-	-	-	-	-
Stage 2	363	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	184.7	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	60	505	671	-
HCM Lane V/C Ratio	-	1.467	0.215	0.05	-
HCM Control Delay (s)	-	$ 395.3	14.1	10.6	-
HCM Lane LOS	-	F	B	B	-
HCM 95th %tile Q(veh)	-	7.8	0.8	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	44	0	66	66	22
Future Vol, veh/h	29	44	0	66	66	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	48	0	72	72	24

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	156	0	0	0	72	0
Stage 1	0	-	-	-	-	-
Stage 2	156	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	820	-	-	-	1526	-
Stage 1	-	-	-	-	-	-
Stage 2	856	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	781	-	-	-	1526	-
Mov Cap-2 Maneuver	746	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	816	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	5.6
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1526	-
HCM Lane V/C Ratio	-	-	-	0.047	-
HCM Control Delay (s)	-	-	-	7.5	-
HCM Lane LOS	-	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↑	↱		↰	
Traffic Vol, veh/h	32	2	267	0	0	0	0	318	88	9	195	0
Future Vol, veh/h	32	2	267	0	0	0	0	318	88	9	195	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	37	50	80	100	100	100	89	84	74	67	86	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	4	334	0	0	0	0	379	119	13	227	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	692	751	227	-	0	0	498	0	0
Stage 1	253	253	-	-	-	-	-	-	-
Stage 2	439	498	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	410	340	812	0	-	-	1066	-	0
Stage 1	789	698	-	0	-	-	-	-	0
Stage 2	650	544	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	404	0	812	-	-	-	1066	-	-
Mov Cap-2 Maneuver	404	0	-	-	-	-	-	-	-
Stage 1	789	0	-	-	-	-	-	-	-
Stage 2	641	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	404	812	1066	-
HCM Lane V/C Ratio	-	-	0.224	0.411	0.013	-
HCM Control Delay (s)	-	-	16.5	12.5	8.4	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	2	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	141	264	39	188	268
Future Vol, veh/h	19	141	264	39	188	268
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	67	76	70	65	90	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	186	377	60	209	372

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	981	189	0	0	437	0
Stage 1	377	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	247	821	-	-	1119	-
Stage 1	663	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	201	821	-	-	1119	-
Mov Cap-2 Maneuver	316	-	-	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	3.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	316	821	1119	-
HCM Lane V/C Ratio	-	-	0.09	0.226	0.187	-
HCM Control Delay (s)	-	-	17.5	10.7	9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.9	0.7	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	108	220	102	71	234
Future Vol, veh/h	81	108	220	102	71	234
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	84	84	74	57	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	91	129	262	138	125	266

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	645	131	0	0	400	0
Stage 1	262	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	405	894	-	-	1155	-
Stage 1	758	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	361	894	-	-	1155	-
Mov Cap-2 Maneuver	461	-	-	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	588	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	461	894	1155	-
HCM Lane V/C Ratio	-	-	0.197	0.144	0.108	-
HCM Control Delay (s)	-	-	14.7	9.7	8.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.5	0.4	-

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	135	207	41	56	218
Future Vol, veh/h	106	135	207	41	56	218
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	62	82	82	85	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	218	252	50	66	234

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	618	-	0	-	252	0
Stage 1	252	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	453	0	-	0	1313	-
Stage 1	790	0	-	0	-	-
Stage 2	702	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	430	-	-	-	1313	-
Mov Cap-2 Maneuver	430	-	-	-	-	-
Stage 1	790	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	430	-	1313	-
HCM Lane V/C Ratio	-	0.301	-	0.05	-
HCM Control Delay (s)	-	16.9	0	7.9	-
HCM Lane LOS	-	C	A	A	-
HCM 95th %tile Q(veh)	-	1.2	-	0.2	-

Intersection	
Int Delay, s/veh	12.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	98	0	5	303	74	0	0	101	35
Future Vol, veh/h	0	0	0	98	0	5	303	74	0	0	101	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	64	92	50	96	64	92	92	79	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	153	0	10	316	116	0	0	128	65

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	909	941	116	193	0	-	-	-	0
Stage 1	748	748	-	-	-	-	-	-	-
Stage 2	161	193	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	305	263	936	1380	-	0	0	-	-
Stage 1	468	420	-	-	-	0	0	-	-
Stage 2	868	741	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	230	0	936	1380	-	-	-	-	-
Mov Cap-2 Maneuver	230	0	-	-	-	-	-	-	-
Stage 1	353	0	-	-	-	-	-	-	-
Stage 2	868	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	44.9	6.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1380	-	230	936	-	-
HCM Lane V/C Ratio	0.229	-	0.666	0.011	-	-
HCM Control Delay (s)	8.4	0	47.2	8.9	-	-
HCM Lane LOS	A	A	E	A	-	-
HCM 95th %tile Q(veh)	0.9	-	4.2	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	82	130	6	331	0	0	0	0	15	0	121
Future Vol, veh/h	0	82	130	6	331	0	0	0	0	15	0	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	77	77	50	81	92	92	92	92	81	92	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	106	169	12	409	0	0	0	0	19	0	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	275	0	0			624	708	409
Stage 1	-	-	-	-	-	-			433	433	-
Stage 2	-	-	-	-	-	-			191	275	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1288	-	0			449	360	642
Stage 1	0	-	-	-	-	0			654	582	-
Stage 2	0	-	-	-	-	0			841	683	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1288	-	-			444	0	642
Mov Cap-2 Maneuver	-	-	-	-	-	-			444	0	-
Stage 1	-	-	-	-	-	-			654	0	-
Stage 2	-	-	-	-	-	-			831	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1288	-	444	642
HCM Lane V/C Ratio	-	-	0.009	-	0.042	0.222
HCM Control Delay (s)	-	-	7.8	0	13.5	12.2
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.1	0.8

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	47	0	0	107	29	230	1	2	0	0	0
Future Vol, veh/h	51	47	0	0	107	29	230	1	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	92	92	70	62	88	25	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	55	0	0	153	47	261	4	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	200	0	-	-	-	0	342	365	55
Stage 1	-	-	-	-	-	-	165	165	-
Stage 2	-	-	-	-	-	-	177	200	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1372	-	0	0	-	-	654	563	1012
Stage 1	-	-	0	0	-	-	864	762	-
Stage 2	-	-	0	0	-	-	854	736	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1372	-	-	-	-	-	627	0	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	627	0	-
Stage 1	-	-	-	-	-	-	829	0	-
Stage 2	-	-	-	-	-	-	854	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.9	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	627	1012	1372	-	-	-
HCM Lane V/C Ratio	0.423	0.004	0.04	-	-	-
HCM Control Delay (s)	14.9	8.6	7.7	0	-	-
HCM Lane LOS	B	A	A	A	-	-
HCM 95th %tile Q(veh)	2.1	0	0.1	-	-	-

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	387	101	83	497	0	0	0	0	56	1	174
Future Vol, veh/h	0	387	101	83	497	0	0	0	0	56	1	174
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	76	70	92	92	92	92	92	82	25	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	421	133	119	540	0	0	0	0	68	4	212

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	421	0	0			1199	1199	540
Stage 1	-	-	-	-	-	-			778	778	-
Stage 2	-	-	-	-	-	-			421	421	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1138	-	0			205	185	542
Stage 1	0	-	0	-	-	0			453	407	-
Stage 2	0	-	0	-	-	0			662	589	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1138	-	-			174	0	542
Mov Cap-2 Maneuver	-	-	-	-	-	-			174	0	-
Stage 1	-	-	-	-	-	-			453	0	-
Stage 2	-	-	-	-	-	-			563	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.5	21.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1138	-	174	542
HCM Lane V/C Ratio	-	0.104	-	0.415	0.392
HCM Control Delay (s)	-	8.5	0	39.7	15.9
HCM Lane LOS	-	A	A	E	C
HCM 95th %tile Q(veh)	-	0.3	-	1.9	1.8

Intersection	
Int Delay, s/veh	54.3

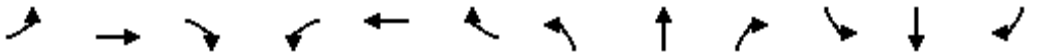
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	164	278	0	0	385	70	191	0	69	0	0	0
Future Vol, veh/h	164	278	0	0	385	70	191	0	69	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	345	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	81	92	92	82	80	80	92	77	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	189	343	0	0	470	88	239	0	90	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	470	0	-	-	-	0	1191	1191	343
Stage 1	-	-	-	-	-	-	721	721	-
Stage 2	-	-	-	-	-	-	470	470	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1092	-	0	0	-	0	~ 207	187	700
Stage 1	-	-	0	0	-	0	482	432	-
Stage 2	-	-	0	0	-	0	629	560	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1092	-	-	-	-	-	~ 163	0	700
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 163	0	-
Stage 1	-	-	-	-	-	-	379	0	-
Stage 2	-	-	-	-	-	-	629	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.2	0	214.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	163	700	1092	-	-
HCM Lane V/C Ratio	1.465	0.128	0.173	-	-
HCM Control Delay (s)	291.3	10.9	9	0	-
HCM Lane LOS	F	B	A	A	-
HCM 95th %tile Q(veh)	15.3	0.4	0.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	934	0	13	1077	6	3	36	17	239	7	51
Future Volume (veh/h)	40	934	0	13	1077	6	3	36	17	239	7	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	1049	0	19	1134	10	4	65	27	295	9	72
Peak Hour Factor	0.65	0.89	0.92	0.69	0.95	0.62	0.75	0.55	0.62	0.81	0.75	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	1267	0	23	1195	11	37	273	322	68	0	322
Arrive On Green	0.04	0.68	0.00	0.01	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1870	0	1781	1851	16	0	1347	1585	0	0	1585
Grp Volume(v), veh/h	62	1049	0	19	0	1144	69	0	27	304	0	72
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1867	1347	0	1585	0	0	1585
Q Serve(g_s), s	3.6	42.8	0.0	1.1	0.0	58.3	0.0	0.0	1.4	0.0	0.0	3.9
Cycle Q Clear(g_c), s	3.6	42.8	0.0	1.1	0.0	58.3	21.1	0.0	1.4	21.1	0.0	3.9
Prop In Lane	1.00		0.00	1.00		0.01	0.06		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	80	1267	0	23	0	1205	310	0	322	68	0	322
V/C Ratio(X)	0.78	0.83	0.00	0.84	0.00	0.95	0.22	0.00	0.08	4.46	0.00	0.22
Avail Cap(c_a), veh/h	120	1267	0	206	0	1318	310	0	322	68	0	322
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.1	12.3	0.0	51.2	0.0	16.9	34.5	0.0	33.6	52.0	0.0	34.6
Incr Delay (d2), s/veh	16.4	4.7	0.0	52.9	0.0	13.8	0.4	0.0	0.1	1588.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	14.4	0.0	0.8	0.0	23.0	1.5	0.0	0.6	31.9	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.5	17.0	0.0	104.2	0.0	30.6	34.8	0.0	33.7	1640.6	0.0	35.0
LnGrp LOS	E	B	A	F	A	C	C	A	C	F	A	C
Approach Vol, veh/h		1111			1163			96			376	
Approach Delay, s/veh		19.7			31.8			34.5			1333.1	
Approach LOS		B			C			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	71.7		24.6	4.3	75.1		24.6				
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5				
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6				
Max Q Clear Time (g_c+I1), s	5.6	60.3		23.1	3.1	44.8		23.1				
Green Ext Time (p_c), s	0.0	6.8		0.0	0.0	8.1		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		205.2
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1012	13	22	1164	3	36	1	63	6	9	18
Future Volume (veh/h)	1	1012	13	22	1164	3	36	1	63	6	9	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	1112	24	37	1188	8	78	4	78	10	13	36
Peak Hour Factor	0.25	0.91	0.55	0.59	0.98	0.38	0.46	0.25	0.81	0.62	0.67	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1174	25	47	1239	8	72	2	343	53	50	343
Arrive On Green	0.00	0.64	0.64	0.03	0.67	0.67	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	1824	39	1781	1856	12	0	9	1585	0	230	1585
Grp Volume(v), veh/h	4	0	1136	37	0	1196	82	0	78	23	0	36
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	0	1868	9	0	1585	230	0	1585
Q Serve(g_s), s	0.2	0.0	54.3	2.0	0.0	57.7	0.0	0.0	4.0	0.0	0.0	1.8
Cycle Q Clear(g_c), s	0.2	0.0	54.3	2.0	0.0	57.7	21.1	0.0	4.0	21.1	0.0	1.8
Prop In Lane	1.00		0.02	1.00		0.01	0.95		1.00	0.43		1.00
Lane Grp Cap(c), veh/h	4	0	1199	47	0	1247	74	0	343	103	0	343
V/C Ratio(X)	0.96	0.00	0.95	0.79	0.00	0.96	1.11	0.00	0.23	0.22	0.00	0.10
Avail Cap(c_a), veh/h	219	0	1307	219	0	1310	74	0	343	103	0	343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	15.9	47.2	0.0	15.0	48.2	0.0	31.5	32.1	0.0	30.6
Incr Delay (d2), s/veh	192.3	0.0	13.6	25.1	0.0	15.7	137.2	0.0	0.3	1.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	21.0	1.2	0.0	22.1	4.6	0.0	1.6	0.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	241.0	0.0	29.5	72.3	0.0	30.7	185.4	0.0	31.8	33.2	0.0	30.8
LnGrp LOS	F	A	C	E	A	C	F	A	C	C	A	C
Approach Vol, veh/h		1140			1233			160			59	
Approach Delay, s/veh		30.2			32.0			110.5			31.7	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.2	69.7		24.6	5.6	67.4		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	2.2	59.7		23.1	4.0	56.3		23.1
Green Ext Time (p_c), s	0.0	5.4		0.0	0.0	6.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	12.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	151	1059	23	44	971
Future Vol, veh/h	81	151	1059	23	44	971
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	0	50	-	340	330	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	164	1151	25	48	1055

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1775	576	0	-	1151	0
Stage 1	1151	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 74	460	-	0	603	-
Stage 1	263	-	-	0	-	-
Stage 2	496	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 68	460	-	-	603	-
Mov Cap-2 Maneuver	~ 68	-	-	-	-	-
Stage 1	263	-	-	-	-	-
Stage 2	456	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	120.1	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	68	460	603	-
HCM Lane V/C Ratio	-	1.295	0.357	0.079	-
HCM Control Delay (s)	-	$ 312	17.1	11.5	-
HCM Lane LOS	-	F	C	B	-
HCM 95th %tile Q(veh)	-	7.1	1.6	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	44	35	71	66	24
Future Vol, veh/h	31	44	35	71	66	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	48	38	77	72	26

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	195	19	0	0	115	0
Stage 1	38	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	776	1055	-	-	1472	-
Stage 1	980	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	738	1055	-	-	1472	-
Mov Cap-2 Maneuver	726	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	5.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	1472	-
HCM Lane V/C Ratio	-	-	0.092	0.049	-
HCM Control Delay (s)	-	-	9.5	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↑	↱		↰	
Traffic Vol, veh/h	21	0	257	0	0	0	0	364	69	5	138	0
Future Vol, veh/h	21	0	257	0	0	0	0	364	69	5	138	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	100	100	100	89	89	89	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	329	0	0	0	0	409	78	6	170	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	630	669	170	-	0	0	487	0	0
Stage 1	182	182	-	-	-	-	-	-	-
Stage 2	448	487	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	446	379	874	0	-	-	1076	-	0
Stage 1	849	749	-	0	-	-	-	-	0
Stage 2	644	550	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	443	0	874	-	-	-	1076	-	-
Mov Cap-2 Maneuver	443	0	-	-	-	-	-	-	-
Stage 1	849	0	-	-	-	-	-	-	-
Stage 2	640	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	443	874	1076	-
HCM Lane V/C Ratio	-	-	0.061	0.377	0.006	-
HCM Control Delay (s)	-	-	13.7	11.6	8.4	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	1.8	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	112	286	53	180	243
Future Vol, veh/h	26	112	286	53	180	243
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	70	70	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	138	409	76	225	304

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1011	205	0	0	485	0
Stage 1	409	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	236	802	-	-	1074	-
Stage 1	639	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	187	802	-	-	1074	-
Mov Cap-2 Maneuver	304	-	-	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	403	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	3.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	304	802	1074	-
HCM Lane V/C Ratio	-	-	0.106	0.172	0.209	-
HCM Control Delay (s)	-	-	18.2	10.4	9.2	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.8	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	105	238	120	61	202
Future Vol, veh/h	74	105	238	120	61	202
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	94	94	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	142	253	128	68	224

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	501	127	0	0	381	0
Stage 1	253	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	499	900	-	-	1174	-
Stage 1	766	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	470	900	-	-	1174	-
Mov Cap-2 Maneuver	554	-	-	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	554	900	1174	-
HCM Lane V/C Ratio	-	-	0.181	0.158	0.058	-
HCM Control Delay (s)	-	-	12.9	9.7	8.3	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.6	0.2	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	94	206	181	54	60	180
Future Vol, veh/h	94	206	181	54	60	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	98	98	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	240	185	55	73	220

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	551	-	0	-	185	0
Stage 1	185	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	495	0	-	0	1390	-
Stage 1	847	0	-	0	-	-
Stage 2	702	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	469	-	-	-	1390	-
Mov Cap-2 Maneuver	469	-	-	-	-	-
Stage 1	847	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	1.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	469	-	1390	-
HCM Lane V/C Ratio	-	0.233	-	0.053	-
HCM Control Delay (s)	-	15	0	7.7	-
HCM Lane LOS	-	C	A	A	-
HCM 95th %tile Q(veh)	-	0.9	-	0.2	-

Intersection	
Int Delay, s/veh	20.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	106	0	5	354	38	0	0	69	39
Future Vol, veh/h	0	0	0	106	0	5	354	38	0	0	69	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	66	92	50	88	52	92	92	68	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	161	0	10	402	73	0	0	101	60

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	1008	1038	73	161	0	-	-	-	0
Stage 1	877	877	-	-	-	-	-	-	-
Stage 2	131	161	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	267	231	989	1418	-	0	0	-	-
Stage 1	407	366	-	-	-	0	0	-	-
Stage 2	895	765	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	188	0	989	1418	-	-	-	-	-
Mov Cap-2 Maneuver	188	0	-	-	-	-	-	-	-
Stage 1	287	0	-	-	-	-	-	-	-
Stage 2	895	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	78.8	7.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1418	-	188	989	-	-
HCM Lane V/C Ratio	0.284	-	0.854	0.01	-	-
HCM Control Delay (s)	8.5	0	83.2	8.7	-	-
HCM Lane LOS	A	A	F	A	-	-
HCM 95th %tile Q(veh)	1.2	-	6.2	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	78	130	2	313	0	0	0	0	17	1	102
Future Vol, veh/h	0	78	130	2	313	0	0	0	0	17	1	102
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	89	82	50	85	92	92	92	92	54	25	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	88	159	4	368	0	0	0	0	31	4	142

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	247	0	0	544	623	368
Stage 1	-	-	-	-	-	-	376	376	-
Stage 2	-	-	-	-	-	-	168	247	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1319	-	0	500	402	677
Stage 1	0	-	-	-	-	0	694	616	-
Stage 2	0	-	-	-	-	0	862	702	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1319	-	-	498	0	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	498	0	-
Stage 1	-	-	-	-	-	-	694	0	-
Stage 2	-	-	-	-	-	-	859	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1319	-	498	677
HCM Lane V/C Ratio	-	-	0.003	-	0.071	0.209
HCM Control Delay (s)	-	-	7.7	0	12.8	11.7
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.2	0.8

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	41	0	0	99	24	232	5	2	0	0	0
Future Vol, veh/h	51	41	0	0	99	24	232	5	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	92	92	72	66	83	50	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	59	0	0	138	36	280	10	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	174	0	-	-	-	0	363	381	59
Stage 1	-	-	-	-	-	-	207	207	-
Stage 2	-	-	-	-	-	-	156	174	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1403	-	0	0	-	-	636	552	1007
Stage 1	-	-	0	0	-	-	828	731	-
Stage 2	-	-	0	0	-	-	872	755	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1403	-	-	-	-	-	601	0	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	0	-
Stage 1	-	-	-	-	-	-	782	0	-
Stage 2	-	-	-	-	-	-	872	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.3	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	601	1007	1403	-	-	-
HCM Lane V/C Ratio	0.482	0.004	0.053	-	-	-
HCM Control Delay (s)	16.4	8.6	7.7	0	-	-
HCM Lane LOS	C	A	A	A	-	-
HCM 95th %tile Q(veh)	2.6	0	0.2	-	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	440	94	68	446	0	0	0	0	49	0	200
Future Vol, veh/h	0	440	94	68	446	0	0	0	0	49	0	200
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	85	91	97	92	92	92	92	67	92	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	478	111	75	460	0	0	0	0	73	0	215

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	478	0	0			1088	1088	460
Stage 1	-	-	-	-	-	-			610	610	-
Stage 2	-	-	-	-	-	-			478	478	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1084	-	0			239	216	601
Stage 1	0	-	0	-	-	0			542	485	-
Stage 2	0	-	0	-	-	0			624	556	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1084	-	-			217	0	601
Mov Cap-2 Maneuver	-	-	-	-	-	-			217	0	-
Stage 1	-	-	-	-	-	-			542	0	-
Stage 2	-	-	-	-	-	-			566	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.2	18.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1084	-	217	601
HCM Lane V/C Ratio	-	0.069	-	0.337	0.358
HCM Control Delay (s)	-	8.6	0	29.8	14.3
HCM Lane LOS	-	A	A	D	B
HCM 95th %tile Q(veh)	-	0.2	-	1.4	1.6

Intersection	
Int Delay, s/veh	28.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	214	280	0	0	369	71	143	1	48	0	0	0
Future Vol, veh/h	214	280	0	0	369	71	143	1	48	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	345	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	87	92	92	94	78	86	25	83	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	252	322	0	0	393	91	166	4	58	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	393	0	-	-	-	0	1219	1219	322
Stage 1	-	-	-	-	-	-	826	826	-
Stage 2	-	-	-	-	-	-	393	393	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1166	-	0	0	-	0	199	180	719
Stage 1	-	-	0	0	-	0	430	387	-
Stage 2	-	-	0	0	-	0	682	606	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1166	-	-	-	-	-	~ 147	0	719
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 147	0	-
Stage 1	-	-	-	-	-	-	317	0	-
Stage 2	-	-	-	-	-	-	682	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.9	0	139.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	147	719	1166	-	-
HCM Lane V/C Ratio	1.158	0.08	0.216	-	-
HCM Control Delay (s)	183.6	10.4	8.9	0	-
HCM Lane LOS	F	B	A	A	-
HCM 95th %tile Q(veh)	9.6	0.3	0.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1008	1	8	1029	6	7	26	17	245	8	81
Future Volume (veh/h)	42	1008	1	8	1029	6	7	26	17	245	8	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	1084	4	18	1156	10	14	32	36	285	9	99
Peak Hour Factor	0.60	0.93	0.25	0.44	0.89	0.62	0.50	0.82	0.47	0.86	0.88	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	1282	5	21	1203	10	44	78	311	66	0	311
Arrive On Green	0.05	0.69	0.69	0.01	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1862	7	1781	1851	16	0	396	1585	0	0	1585
Grp Volume(v), veh/h	70	0	1088	18	0	1166	46	0	36	294	0	99
Grp Sat Flow(s),veh/h/ln	1781	0	1869	1781	0	1867	396	0	1585	0	0	1585
Q Serve(g_s), s	4.2	0.0	46.6	1.1	0.0	62.5	0.0	0.0	2.0	0.0	0.0	5.8
Cycle Q Clear(g_c), s	4.2	0.0	46.6	1.1	0.0	62.5	21.1	0.0	2.0	21.1	0.0	5.8
Prop In Lane	1.00		0.00	1.00		0.01	0.30		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	90	0	1287	21	0	1214	122	0	311	66	0	311
V/C Ratio(X)	0.78	0.00	0.85	0.84	0.00	0.96	0.38	0.00	0.12	4.46	0.00	0.32
Avail Cap(c_a), veh/h	116	0	1287	199	0	1276	122	0	311	66	0	311
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.4	0.0	12.5	53.0	0.0	17.5	36.9	0.0	35.5	53.7	0.0	37.0
Incr Delay (d2), s/veh	21.9	0.0	5.4	55.4	0.0	16.3	1.9	0.0	0.2	1589.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	15.7	0.8	0.0	25.5	1.1	0.0	0.8	30.9	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.4	0.0	17.9	108.4	0.0	33.8	38.8	0.0	35.7	1643.2	0.0	37.6
LnGrp LOS	E	A	B	F	A	C	D	A	D	F	A	D
Approach Vol, veh/h		1158			1184			82			393	
Approach Delay, s/veh		21.2			35.0			37.4			1238.8	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	74.4		24.6	4.3	78.6		24.6				
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5				
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6				
Max Q Clear Time (g_c+I1), s	6.2	64.5		23.1	3.1	48.6		23.1				
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	8.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			197.3									
HCM 6th LOS			F									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1081	9	21	1174	0	38	5	51	6	6	22
Future Volume (veh/h)	9	1081	9	21	1174	0	38	5	51	6	6	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1114	18	47	1210	0	69	10	70	19	14	32
Peak Hour Factor	0.50	0.97	0.50	0.45	0.97	0.92	0.55	0.50	0.73	0.31	0.42	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	1183	19	60	1247	0	67	5	334	57	28	334
Arrive On Green	0.01	0.64	0.64	0.03	0.67	0.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	1835	30	1781	1870	0	0	26	1585	0	131	1585
Grp Volume(v), veh/h	18	0	1132	47	1210	0	79	0	70	33	0	32
Grp Sat Flow(s),veh/h/ln	1781	0	1865	1781	1870	0	26	0	1585	131	0	1585
Q Serve(g_s), s	1.0	0.0	55.0	2.6	61.2	0.0	0.0	0.0	3.7	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.0	0.0	55.0	2.6	61.2	0.0	21.1	0.0	3.7	21.1	0.0	1.6
Prop In Lane	1.00		0.02	1.00		0.00	0.87		1.00	0.58		1.00
Lane Grp Cap(c), veh/h	21	0	1202	60	1247	0	73	0	334	84	0	334
V/C Ratio(X)	0.85	0.00	0.94	0.78	0.97	0.00	1.09	0.00	0.21	0.39	0.00	0.10
Avail Cap(c_a), veh/h	213	0	1274	213	1277	0	73	0	334	84	0	334
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.4	0.0	16.1	48.0	15.8	0.0	48.5	0.0	32.6	33.7	0.0	31.8
Incr Delay (d2), s/veh	56.9	0.0	13.3	19.0	18.3	0.0	131.0	0.0	0.3	2.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	21.3	1.4	24.4	0.0	4.5	0.0	1.4	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.3	0.0	29.3	67.0	34.1	0.0	179.5	0.0	33.0	36.6	0.0	32.0
LnGrp LOS	F	A	C	E	C	A	F	A	C	D	A	C
Approach Vol, veh/h		1150			1257			149			65	
Approach Delay, s/veh		30.5			35.3			110.6			34.3	
Approach LOS		C			D			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	71.4		24.6	6.4	69.2		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	3.0	63.2		23.1	4.6	57.0		23.1
Green Ext Time (p_c), s	0.0	3.6		0.0	0.0	6.1		0.0

Intersection Summary	
HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	13.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	105	956	46	32	1431
Future Vol, veh/h	81	105	956	46	32	1431
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	0	50	-	340	330	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	114	1039	50	35	1555

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1887	520	0	-	1039	0
Stage 1	1039	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 62	501	-	0	665	-
Stage 1	302	-	-	0	-	-
Stage 2	380	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 59	501	-	-	665	-
Mov Cap-2 Maneuver	~ 59	-	-	-	-	-
Stage 1	302	-	-	-	-	-
Stage 2	360	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	185.5	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	59	501	665	-
HCM Lane V/C Ratio	-	1.492	0.228	0.052	-
HCM Control Delay (s)	-	$ 407.5	14.3	10.7	-
HCM Lane LOS	-	F	B	B	-
HCM 95th %tile Q(veh)	-	7.8	0.9	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	44	35	71	66	24
Future Vol, veh/h	31	44	35	71	66	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	48	38	77	72	26

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	195	19	0	0	115	0
Stage 1	38	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	776	1055	-	-	1472	-
Stage 1	980	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	738	1055	-	-	1472	-
Mov Cap-2 Maneuver	726	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	5.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	1472	-
HCM Lane V/C Ratio	-	-	0.092	0.049	-
HCM Control Delay (s)	-	-	9.5	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	2	267	0	0	0	0	318	88	9	195	0
Future Vol, veh/h	32	2	267	0	0	0	0	318	88	9	195	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	37	50	80	100	100	100	89	84	74	67	86	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	4	334	0	0	0	0	379	119	13	227	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	692	751	227				-	0	0	498	0	0
Stage 1	253	253	-				-	-	-	-	-	-
Stage 2	439	498	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				-	-	-	2.218	-	-
Pot Cap-1 Maneuver	410	340	812				0	-	-	1066	-	0
Stage 1	789	698	-				0	-	-	-	-	0
Stage 2	650	544	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	404	0	812				-	-	-	1066	-	-
Mov Cap-2 Maneuver	404	0	-				-	-	-	-	-	-
Stage 1	789	0	-				-	-	-	-	-	-
Stage 2	641	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	404	812	1066	-
HCM Lane V/C Ratio	-	-	0.224	0.411	0.013	-
HCM Control Delay (s)	-	-	16.5	12.5	8.4	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	2	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	141	264	39	188	268
Future Vol, veh/h	19	141	264	39	188	268
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	67	76	70	65	90	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	186	377	60	209	372

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	981	189	0	0	437	0
Stage 1	377	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	247	821	-	-	1119	-
Stage 1	663	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	201	821	-	-	1119	-
Mov Cap-2 Maneuver	316	-	-	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	3.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	316	821	1119	-
HCM Lane V/C Ratio	-	-	0.09	0.226	0.187	-
HCM Control Delay (s)	-	-	17.5	10.7	9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.9	0.7	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	108	220	102	71	234
Future Vol, veh/h	81	108	220	102	71	234
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	84	84	74	57	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	91	129	262	138	125	266

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	645	131	0	0	400	0
Stage 1	262	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	405	894	-	-	1155	-
Stage 1	758	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	361	894	-	-	1155	-
Mov Cap-2 Maneuver	461	-	-	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	588	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	461	894	1155	-
HCM Lane V/C Ratio	-	-	0.197	0.144	0.108	-
HCM Control Delay (s)	-	-	14.7	9.7	8.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.5	0.4	-

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	135	207	41	56	218
Future Vol, veh/h	106	135	207	41	56	218
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	62	82	82	85	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	218	252	50	66	234

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	618	-	0	-	252	0
Stage 1	252	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	453	0	-	0	1313	-
Stage 1	790	0	-	0	-	-
Stage 2	702	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	430	-	-	-	1313	-
Mov Cap-2 Maneuver	430	-	-	-	-	-
Stage 1	790	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	430	-	1313	-
HCM Lane V/C Ratio	-	0.301	-	0.05	-
HCM Control Delay (s)	-	16.9	0	7.9	-
HCM Lane LOS	-	C	A	A	-
HCM 95th %tile Q(veh)	-	1.2	-	0.2	-

Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	98	0	5	303	74	0	0	101	35
Future Vol, veh/h	0	0	0	98	0	5	303	74	0	0	101	35
Peak Hour Factor	0.92	0.92	0.92	0.64	0.92	0.50	0.96	0.64	0.92	0.92	0.79	0.54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	153	0	10	316	116	0	0	128	65
Number of Lanes	0	0	0	0	1	1	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	11.6	14.5	9.6
HCM LOS	B	B	A

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	80%	100%	0%	0%
Vol Thru, %	20%	0%	0%	74%
Vol Right, %	0%	0%	100%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	377	98	5	136
LT Vol	303	98	0	0
Through Vol	74	0	0	101
RT Vol	0	0	5	35
Lane Flow Rate	431	153	10	193
Geometry Grp	2	7	7	2
Degree of Util (X)	0.581	0.28	0.015	0.258
Departure Headway (Hd)	4.846	6.585	5.369	4.821
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	737	550	671	736
Service Time	2.911	4.285	3.069	2.905
HCM Lane V/C Ratio	0.585	0.278	0.015	0.262
HCM Control Delay	14.5	11.8	8.2	9.6
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	3.8	1.1	0	1

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	82	130	6	331	0	0	0	0	15	0	121
Future Vol, veh/h	0	82	130	6	331	0	0	0	0	15	0	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	77	77	50	81	92	92	92	92	81	92	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	106	169	12	409	0	0	0	0	19	0	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	275	0	0			624	708	409
Stage 1	-	-	-	-	-	-			433	433	-
Stage 2	-	-	-	-	-	-			191	275	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1288	-	0			449	360	642
Stage 1	0	-	-	-	-	0			654	582	-
Stage 2	0	-	-	-	-	0			841	683	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1288	-	-			444	0	642
Mov Cap-2 Maneuver	-	-	-	-	-	-			444	0	-
Stage 1	-	-	-	-	-	-			654	0	-
Stage 2	-	-	-	-	-	-			831	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1288	-	444	642
HCM Lane V/C Ratio	-	-	0.009	-	0.042	0.222
HCM Control Delay (s)	-	-	7.8	0	13.5	12.2
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.1	0.8

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	47	0	0	107	29	230	1	2	0	0	0
Future Vol, veh/h	51	47	0	0	107	29	230	1	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	92	92	70	62	88	25	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	55	0	0	153	47	261	4	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	200	0	-	-	-	0	342	365	55
Stage 1	-	-	-	-	-	-	165	165	-
Stage 2	-	-	-	-	-	-	177	200	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1372	-	0	0	-	-	654	563	1012
Stage 1	-	-	0	0	-	-	864	762	-
Stage 2	-	-	0	0	-	-	854	736	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1372	-	-	-	-	-	627	0	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	627	0	-
Stage 1	-	-	-	-	-	-	829	0	-
Stage 2	-	-	-	-	-	-	854	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.9	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	627	1012	1372	-	-	-
HCM Lane V/C Ratio	0.423	0.004	0.04	-	-	-
HCM Control Delay (s)	14.9	8.6	7.7	0	-	-
HCM Lane LOS	B	A	A	A	-	-
HCM 95th %tile Q(veh)	2.1	0	0.1	-	-	-

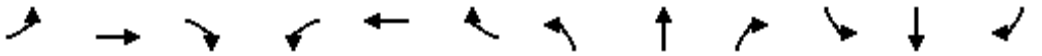
Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	387	101	83	497	0	0	0	0	56	1	174
Future Vol, veh/h	0	387	101	83	497	0	0	0	0	56	1	174
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	76	70	92	92	92	92	92	82	25	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	421	133	119	540	0	0	0	0	68	4	212

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	421	0	0			1199	1199	540
Stage 1	-	-	-	-	-	-			778	778	-
Stage 2	-	-	-	-	-	-			421	421	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1138	-	0			205	185	542
Stage 1	0	-	0	-	-	0			453	407	-
Stage 2	0	-	0	-	-	0			662	589	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1138	-	-			174	0	542
Mov Cap-2 Maneuver	-	-	-	-	-	-			174	0	-
Stage 1	-	-	-	-	-	-			453	0	-
Stage 2	-	-	-	-	-	-			563	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.5	21.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1138	-	174	542
HCM Lane V/C Ratio	-	0.104	-	0.415	0.392
HCM Control Delay (s)	-	8.5	0	39.7	15.9
HCM Lane LOS	-	A	A	E	C
HCM 95th %tile Q(veh)	-	0.3	-	1.9	1.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	278	0	0	385	70	191	0	69	0	0	0
Future Volume (veh/h)	164	278	0	0	385	70	191	0	69	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	189	343	0	0	470	0	239	0	90			
Peak Hour Factor	0.87	0.81	0.92	0.92	0.82	0.80	0.80	0.92	0.77			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	314	457	0	0	930		391	0	348			
Arrive On Green	0.50	0.50	0.00	0.00	0.50	0.00	0.22	0.00	0.22			
Sat Flow, veh/h	322	918	0	0	1870	1585	1781	0	1585			
Grp Volume(v), veh/h	532	0	0	0	470	0	239	0	90			
Grp Sat Flow(s),veh/h/ln	1240	0	0	0	1870	1585	1781	0	1585			
Q Serve(g_s), s	7.2	0.0	0.0	0.0	5.4	0.0	3.8	0.0	1.5			
Cycle Q Clear(g_c), s	12.6	0.0	0.0	0.0	5.4	0.0	3.8	0.0	1.5			
Prop In Lane	0.36		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	770	0	0	0	930		391	0	348			
V/C Ratio(X)	0.69	0.00	0.00	0.00	0.51		0.61	0.00	0.26			
Avail Cap(c_a), veh/h	866	0	0	0	1060		1010	0	898			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	7.2	0.0	0.0	0.0	5.4	0.0	11.2	0.0	10.3			
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.4	0.0	1.6	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.0	0.9	0.0	1.0	0.0	0.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	0.0	0.0	0.0	5.8	0.0	12.7	0.0	10.7			
LnGrp LOS	A	A	A	A	A		B	A	B			
Approach Vol, veh/h		532			470	A		329				
Approach Delay, s/veh		9.3			5.8			12.2				
Approach LOS		A			A			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		11.5		20.3				20.3				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		18.0		18.0				18.0				
Max Q Clear Time (g_c+I1), s		5.8		14.6				7.4				
Green Ext Time (p_c), s		1.1		1.2				2.1				

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	934	0	13	1077	6	3	36	17	239	7	51
Future Volume (veh/h)	40	934	0	13	1077	6	3	36	17	239	7	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	1049	0	19	1134	10	4	65	27	295	9	72
Peak Hour Factor	0.65	0.89	0.92	0.69	0.95	0.62	0.75	0.55	0.62	0.81	0.75	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	1267	0	23	1195	11	37	273	322	68	0	322
Arrive On Green	0.04	0.68	0.00	0.01	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1870	0	1781	1851	16	0	1347	1585	0	0	1585
Grp Volume(v), veh/h	62	1049	0	19	0	1144	69	0	27	304	0	72
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1867	1347	0	1585	0	0	1585
Q Serve(g_s), s	3.6	42.8	0.0	1.1	0.0	58.3	0.0	0.0	1.4	0.0	0.0	3.9
Cycle Q Clear(g_c), s	3.6	42.8	0.0	1.1	0.0	58.3	21.1	0.0	1.4	21.1	0.0	3.9
Prop In Lane	1.00		0.00	1.00		0.01	0.06		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	80	1267	0	23	0	1205	310	0	322	68	0	322
V/C Ratio(X)	0.78	0.83	0.00	0.84	0.00	0.95	0.22	0.00	0.08	4.46	0.00	0.22
Avail Cap(c_a), veh/h	120	1267	0	206	0	1318	310	0	322	68	0	322
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.1	12.3	0.0	51.2	0.0	16.9	34.5	0.0	33.6	52.0	0.0	34.6
Incr Delay (d2), s/veh	16.4	4.7	0.0	52.9	0.0	13.8	0.4	0.0	0.1	1588.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	14.4	0.0	0.8	0.0	23.0	1.5	0.0	0.6	31.9	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.5	17.0	0.0	104.2	0.0	30.6	34.8	0.0	33.7	1640.6	0.0	35.0
LnGrp LOS	E	B	A	F	A	C	C	A	C	F	A	C
Approach Vol, veh/h		1111			1163			96			376	
Approach Delay, s/veh		19.7			31.8			34.5			1333.1	
Approach LOS		B			C			C			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.7	71.7		24.6	4.3	75.1		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	5.6	60.3		23.1	3.1	44.8		23.1
Green Ext Time (p_c), s	0.0	6.8		0.0	0.0	8.1		0.0

Intersection Summary	
HCM 6th Ctrl Delay	205.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1012	13	22	1164	3	36	1	63	6	9	18
Future Volume (veh/h)	1	1012	13	22	1164	3	36	1	63	6	9	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	1112	24	37	1188	8	78	4	78	10	13	36
Peak Hour Factor	0.25	0.91	0.55	0.59	0.98	0.38	0.46	0.25	0.81	0.62	0.67	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1174	25	47	1239	8	72	2	343	53	50	343
Arrive On Green	0.00	0.64	0.64	0.03	0.67	0.67	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	1824	39	1781	1856	12	0	9	1585	0	230	1585
Grp Volume(v), veh/h	4	0	1136	37	0	1196	82	0	78	23	0	36
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	0	1868	9	0	1585	230	0	1585
Q Serve(g_s), s	0.2	0.0	54.3	2.0	0.0	57.7	0.0	0.0	4.0	0.0	0.0	1.8
Cycle Q Clear(g_c), s	0.2	0.0	54.3	2.0	0.0	57.7	21.1	0.0	4.0	21.1	0.0	1.8
Prop In Lane	1.00		0.02	1.00		0.01	0.95		1.00	0.43		1.00
Lane Grp Cap(c), veh/h	4	0	1199	47	0	1247	74	0	343	103	0	343
V/C Ratio(X)	0.96	0.00	0.95	0.79	0.00	0.96	1.11	0.00	0.23	0.22	0.00	0.10
Avail Cap(c_a), veh/h	219	0	1307	219	0	1310	74	0	343	103	0	343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	15.9	47.2	0.0	15.0	48.2	0.0	31.5	32.1	0.0	30.6
Incr Delay (d2), s/veh	192.3	0.0	13.6	25.1	0.0	15.7	137.2	0.0	0.3	1.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	21.0	1.2	0.0	22.1	4.6	0.0	1.6	0.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	241.0	0.0	29.5	72.3	0.0	30.7	185.4	0.0	31.8	33.2	0.0	30.8
LnGrp LOS	F	A	C	E	A	C	F	A	C	C	A	C
Approach Vol, veh/h		1140			1233			160			59	
Approach Delay, s/veh		30.2			32.0			110.5			31.7	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.2	69.7		24.6	5.6	67.4		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	2.2	59.7		23.1	4.0	56.3		23.1
Green Ext Time (p_c), s	0.0	5.4		0.0	0.0	6.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	81	151	1059	23	44	971
Future Volume (veh/h)	81	151	1059	23	44	971
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	0	1151	0	48	1055
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	163		1947		450	1947
Arrive On Green	0.09	0.00	0.55	0.00	0.55	0.55
Sat Flow, veh/h	1781	1585	3647	1585	488	3647
Grp Volume(v), veh/h	88	0	1151	0	48	1055
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	488	1777
Q Serve(g_s), s	1.2	0.0	5.4	0.0	1.8	4.8
Cycle Q Clear(g_c), s	1.2	0.0	5.4	0.0	7.2	4.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	163		1947		450	1947
V/C Ratio(X)	0.54		0.59		0.11	0.54
Avail Cap(c_a), veh/h	1285		2564		535	2564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	10.8	0.0	3.8	0.0	6.2	3.6
Incr Delay (d2), s/veh	2.8	0.0	0.3	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.1	0.0	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.6	0.0	4.1	0.0	6.3	3.9
LnGrp LOS	B		A		A	A
Approach Vol, veh/h	88	A	1151	A		1103
Approach Delay, s/veh	13.6		4.1			4.0
Approach LOS	B		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	18.2			18.2	6.8
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.0			18.0	18.0
Max Q Clear Time (g_c+I1), s	7.4			9.2	3.2
Green Ext Time (p_c), s	5.1			4.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	4.4
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, WBR, SBT] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	44	35	71	66	24
Future Vol, veh/h	31	44	35	71	66	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	48	38	77	72	26

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	195	19	0	0	115	0
Stage 1	38	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	776	1055	-	-	1472	-
Stage 1	980	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	738	1055	-	-	1472	-
Mov Cap-2 Maneuver	726	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	5.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	1472	-
HCM Lane V/C Ratio	-	-	0.092	0.049	-
HCM Control Delay (s)	-	-	9.5	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	0	257	0	0	0	0	364	69	5	138	0
Future Vol, veh/h	21	0	257	0	0	0	0	364	69	5	138	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	100	100	100	89	89	89	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	329	0	0	0	0	409	78	6	170	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	630	669	170	-	0	0	487	0	0
Stage 1	182	182	-	-	-	-	-	-	-
Stage 2	448	487	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	446	379	874	0	-	-	1076	-	0
Stage 1	849	749	-	0	-	-	-	-	0
Stage 2	644	550	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	443	0	874	-	-	-	1076	-	-
Mov Cap-2 Maneuver	443	0	-	-	-	-	-	-	-
Stage 1	849	0	-	-	-	-	-	-	-
Stage 2	640	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	443	874	1076	-
HCM Lane V/C Ratio	-	-	0.061	0.377	0.006	-
HCM Control Delay (s)	-	-	13.7	11.6	8.4	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	1.8	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	112	286	53	180	243
Future Vol, veh/h	26	112	286	53	180	243
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	70	70	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	138	409	76	225	304

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1011	205	0	0	485	0
Stage 1	409	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	236	802	-	-	1074	-
Stage 1	639	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	187	802	-	-	1074	-
Mov Cap-2 Maneuver	304	-	-	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	403	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	3.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	304	802	1074	-
HCM Lane V/C Ratio	-	-	0.106	0.172	0.209	-
HCM Control Delay (s)	-	-	18.2	10.4	9.2	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.8	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	105	238	120	61	202
Future Vol, veh/h	74	105	238	120	61	202
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	94	94	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	142	253	128	68	224

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	501	127	0	0	381	0
Stage 1	253	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	499	900	-	-	1174	-
Stage 1	766	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	470	900	-	-	1174	-
Mov Cap-2 Maneuver	554	-	-	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	554	900	1174	-
HCM Lane V/C Ratio	-	-	0.181	0.158	0.058	-
HCM Control Delay (s)	-	-	12.9	9.7	8.3	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.6	0.2	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	94	206	181	54	60	180
Future Vol, veh/h	94	206	181	54	60	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	98	98	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	240	185	55	73	220

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	551	-	0	-	185	0
Stage 1	185	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	495	0	-	0	1390	-
Stage 1	847	0	-	0	-	-
Stage 2	702	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	469	-	-	-	1390	-
Mov Cap-2 Maneuver	469	-	-	-	-	-
Stage 1	847	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	1.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	469	-	1390	-
HCM Lane V/C Ratio	-	0.233	-	0.053	-
HCM Control Delay (s)	-	15	0	7.7	-
HCM Lane LOS	-	C	A	A	-
HCM 95th %tile Q(veh)	-	0.9	-	0.2	-

Intersection	
Intersection Delay, s/veh	14
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	106	0	5	354	38	0	0	69	39
Future Vol, veh/h	0	0	0	106	0	5	354	38	0	0	69	39
Peak Hour Factor	0.92	0.92	0.92	0.66	0.92	0.50	0.88	0.52	0.92	0.92	0.68	0.65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	161	0	10	402	73	0	0	101	60
Number of Lanes	0	0	0	0	1	1	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	11.9	16.3	9.3
HCM LOS	B	C	A

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	90%	100%	0%	0%
Vol Thru, %	10%	0%	0%	64%
Vol Right, %	0%	0%	100%	36%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	392	106	5	108
LT Vol	354	106	0	0
Through Vol	38	0	0	69
RT Vol	0	0	5	39
Lane Flow Rate	475	161	10	161
Geometry Grp	2	7	7	2
Degree of Util (X)	0.641	0.296	0.015	0.217
Departure Headway (Hd)	4.857	6.63	5.414	4.842
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	737	546	665	731
Service Time	2.924	4.33	3.114	2.935
HCM Lane V/C Ratio	0.645	0.295	0.015	0.22
HCM Control Delay	16.3	12.1	8.2	9.3
HCM Lane LOS	C	B	A	A
HCM 95th-tile Q	4.7	1.2	0	0.8

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	78	130	2	313	0	0	0	0	17	1	102
Future Vol, veh/h	0	78	130	2	313	0	0	0	0	17	1	102
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	89	82	50	85	92	92	92	92	54	25	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	88	159	4	368	0	0	0	0	31	4	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	247	0	0			544	623	368
Stage 1	-	-	-	-	-	-			376	376	-
Stage 2	-	-	-	-	-	-			168	247	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1319	-	0			500	402	677
Stage 1	0	-	-	-	-	0			694	616	-
Stage 2	0	-	-	-	-	0			862	702	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1319	-	-			498	0	677
Mov Cap-2 Maneuver	-	-	-	-	-	-			498	0	-
Stage 1	-	-	-	-	-	-			694	0	-
Stage 2	-	-	-	-	-	-			859	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1319	-	498	677
HCM Lane V/C Ratio	-	-	0.003	-	0.071	0.209
HCM Control Delay (s)	-	-	7.7	0	12.8	11.7
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.2	0.8

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	41	0	0	99	24	232	5	2	0	0	0
Future Vol, veh/h	51	41	0	0	99	24	232	5	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	92	92	72	66	83	50	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	59	0	0	138	36	280	10	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	174	0	-	-	-	0	363	381	59
Stage 1	-	-	-	-	-	-	207	207	-
Stage 2	-	-	-	-	-	-	156	174	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1403	-	0	0	-	-	636	552	1007
Stage 1	-	-	0	0	-	-	828	731	-
Stage 2	-	-	0	0	-	-	872	755	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1403	-	-	-	-	-	601	0	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	0	-
Stage 1	-	-	-	-	-	-	782	0	-
Stage 2	-	-	-	-	-	-	872	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.3	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	601	1007	1403	-	-	-
HCM Lane V/C Ratio	0.482	0.004	0.053	-	-	-
HCM Control Delay (s)	16.4	8.6	7.7	0	-	-
HCM Lane LOS	C	A	A	A	-	-
HCM 95th %tile Q(veh)	2.6	0	0.2	-	-	-

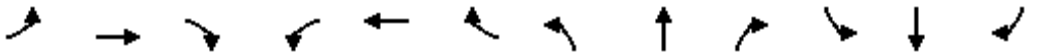
Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	440	94	68	446	0	0	0	0	49	0	200
Future Vol, veh/h	0	440	94	68	446	0	0	0	0	49	0	200
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	85	91	97	92	92	92	92	67	92	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	478	111	75	460	0	0	0	0	73	0	215

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	478	0	0			1088	1088	460
Stage 1	-	-	-	-	-	-			610	610	-
Stage 2	-	-	-	-	-	-			478	478	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1084	-	0			239	216	601
Stage 1	0	-	0	-	-	0			542	485	-
Stage 2	0	-	0	-	-	0			624	556	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1084	-	-			217	0	601
Mov Cap-2 Maneuver	-	-	-	-	-	-			217	0	-
Stage 1	-	-	-	-	-	-			542	0	-
Stage 2	-	-	-	-	-	-			566	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.2	18.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1084	-	217	601
HCM Lane V/C Ratio	-	0.069	-	0.337	0.358
HCM Control Delay (s)	-	8.6	0	29.8	14.3
HCM Lane LOS	-	A	A	D	B
HCM 95th %tile Q(veh)	-	0.2	-	1.4	1.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	280	0	0	369	71	143	1	48	0	0	0
Future Volume (veh/h)	214	280	0	0	369	71	143	1	48	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	252	322	0	0	393	0	166	4	58			
Peak Hour Factor	0.85	0.87	0.92	0.92	0.94	0.78	0.86	0.25	0.83			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	407	424	0	0	981		310	7	282			
Arrive On Green	0.52	0.52	0.00	0.00	0.52	0.00	0.18	0.18	0.18			
Sat Flow, veh/h	448	809	0	0	1870	1585	1741	42	1585			
Grp Volume(v), veh/h	574	0	0	0	393	0	170	0	58			
Grp Sat Flow(s),veh/h/ln	1257	0	0	0	1870	1585	1783	0	1585			
Q Serve(g_s), s	8.7	0.0	0.0	0.0	3.8	0.0	2.6	0.0	0.9			
Cycle Q Clear(g_c), s	12.5	0.0	0.0	0.0	3.8	0.0	2.6	0.0	0.9			
Prop In Lane	0.44		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	831	0	0	0	981		317	0	282			
V/C Ratio(X)	0.69	0.00	0.00	0.00	0.40		0.54	0.00	0.21			
Avail Cap(c_a), veh/h	926	0	0	0	1114		1062	0	944			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	6.5	0.0	0.0	0.0	4.3	0.0	11.3	0.0	10.6			
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.0	0.3	0.0	1.4	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.0	0.5	0.0	0.7	0.0	0.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	0.0	0.0	0.0	4.6	0.0	12.7	0.0	11.0			
LnGrp LOS	A	A	A	A	A		B	A	B			
Approach Vol, veh/h		574			393	A		228				
Approach Delay, s/veh		8.5			4.6			12.3				
Approach LOS		A			A			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		9.9		20.4				20.4				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		18.0		18.0				18.0				
Max Q Clear Time (g_c+I1), s		4.6		14.5				5.8				
Green Ext Time (p_c), s		0.8		1.3				1.8				

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1008	1	8	1029	6	7	26	17	245	8	81
Future Volume (veh/h)	42	1008	1	8	1029	6	7	26	17	245	8	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	1084	4	18	1156	10	14	32	36	285	9	99
Peak Hour Factor	0.60	0.93	0.25	0.44	0.89	0.62	0.50	0.82	0.47	0.86	0.88	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	1282	5	21	1203	10	44	78	311	66	0	311
Arrive On Green	0.05	0.69	0.69	0.01	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1862	7	1781	1851	16	0	396	1585	0	0	1585
Grp Volume(v), veh/h	70	0	1088	18	0	1166	46	0	36	294	0	99
Grp Sat Flow(s),veh/h/ln	1781	0	1869	1781	0	1867	396	0	1585	0	0	1585
Q Serve(g_s), s	4.2	0.0	46.6	1.1	0.0	62.5	0.0	0.0	2.0	0.0	0.0	5.8
Cycle Q Clear(g_c), s	4.2	0.0	46.6	1.1	0.0	62.5	21.1	0.0	2.0	21.1	0.0	5.8
Prop In Lane	1.00		0.00	1.00		0.01	0.30		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	90	0	1287	21	0	1214	122	0	311	66	0	311
V/C Ratio(X)	0.78	0.00	0.85	0.84	0.00	0.96	0.38	0.00	0.12	4.46	0.00	0.32
Avail Cap(c_a), veh/h	116	0	1287	199	0	1276	122	0	311	66	0	311
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.4	0.0	12.5	53.0	0.0	17.5	36.9	0.0	35.5	53.7	0.0	37.0
Incr Delay (d2), s/veh	21.9	0.0	5.4	55.4	0.0	16.3	1.9	0.0	0.2	1589.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	15.7	0.8	0.0	25.5	1.1	0.0	0.8	30.9	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.4	0.0	17.9	108.4	0.0	33.8	38.8	0.0	35.7	1643.2	0.0	37.6
LnGrp LOS	E	A	B	F	A	C	D	A	D	F	A	D
Approach Vol, veh/h		1158			1184			82			393	
Approach Delay, s/veh		21.2			35.0			37.4			1238.8	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.4	74.4		24.6	4.3	78.6		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	6.2	64.5		23.1	3.1	48.6		23.1
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	8.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	197.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1081	9	21	1174	0	38	5	51	6	6	22
Future Volume (veh/h)	9	1081	9	21	1174	0	38	5	51	6	6	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1114	18	47	1210	0	69	10	70	19	14	32
Peak Hour Factor	0.50	0.97	0.50	0.45	0.97	0.92	0.55	0.50	0.73	0.31	0.42	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	1183	19	60	1247	0	67	5	334	57	28	334
Arrive On Green	0.01	0.64	0.64	0.03	0.67	0.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	1835	30	1781	1870	0	0	26	1585	0	131	1585
Grp Volume(v), veh/h	18	0	1132	47	1210	0	79	0	70	33	0	32
Grp Sat Flow(s),veh/h/ln	1781	0	1865	1781	1870	0	26	0	1585	131	0	1585
Q Serve(g_s), s	1.0	0.0	55.0	2.6	61.2	0.0	0.0	0.0	3.7	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.0	0.0	55.0	2.6	61.2	0.0	21.1	0.0	3.7	21.1	0.0	1.6
Prop In Lane	1.00		0.02	1.00		0.00	0.87		1.00	0.58		1.00
Lane Grp Cap(c), veh/h	21	0	1202	60	1247	0	73	0	334	84	0	334
V/C Ratio(X)	0.85	0.00	0.94	0.78	0.97	0.00	1.09	0.00	0.21	0.39	0.00	0.10
Avail Cap(c_a), veh/h	213	0	1274	213	1277	0	73	0	334	84	0	334
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.4	0.0	16.1	48.0	15.8	0.0	48.5	0.0	32.6	33.7	0.0	31.8
Incr Delay (d2), s/veh	56.9	0.0	13.3	19.0	18.3	0.0	131.0	0.0	0.3	2.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	21.3	1.4	24.4	0.0	4.5	0.0	1.4	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.3	0.0	29.3	67.0	34.1	0.0	179.5	0.0	33.0	36.6	0.0	32.0
LnGrp LOS	F	A	C	E	C	A	F	A	C	D	A	C
Approach Vol, veh/h		1150			1257			149			65	
Approach Delay, s/veh		30.5			35.3			110.6			34.3	
Approach LOS		C			D			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	71.4		24.6	6.4	69.2		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	3.0	63.2		23.1	4.6	57.0		23.1
Green Ext Time (p_c), s	0.0	3.6		0.0	0.0	6.1		0.0

Intersection Summary	
HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	81	105	956	46	32	1431
Future Volume (veh/h)	81	105	956	46	32	1431
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	0	1039	0	35	1555
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	159		2072		485	2072
Arrive On Green	0.09	0.00	0.58	0.00	0.58	0.58
Sat Flow, veh/h	1781	1585	3647	1585	543	3647
Grp Volume(v), veh/h	88	0	1039	0	35	1555
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	543	1777
Q Serve(g_s), s	1.3	0.0	4.7	0.0	1.1	8.9
Cycle Q Clear(g_c), s	1.3	0.0	4.7	0.0	5.8	8.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	159		2072		485	2072
V/C Ratio(X)	0.55		0.50		0.07	0.75
Avail Cap(c_a), veh/h	1168		2331		525	2331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	12.0	0.0	3.4	0.0	5.1	4.2
Incr Delay (d2), s/veh	3.0	0.0	0.2	0.0	0.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.1	0.0	0.0	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.0	0.0	3.6	0.0	5.2	5.5
LnGrp LOS	B		A		A	A
Approach Vol, veh/h	88	A	1039	A		1590
Approach Delay, s/veh	15.0		3.6			5.5
Approach LOS	B		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	20.5			20.5	6.9
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.0			18.0	18.0
Max Q Clear Time (g_c+I1), s	6.7			10.9	3.3
Green Ext Time (p_c), s	4.8			5.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	5.0
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, WBR, SBT] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	44	35	71	66	24
Future Vol, veh/h	31	44	35	71	66	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	48	38	77	72	26

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	195	19	0	0	115	0
Stage 1	38	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	776	1055	-	-	1472	-
Stage 1	980	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	738	1055	-	-	1472	-
Mov Cap-2 Maneuver	726	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	5.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	1472	-
HCM Lane V/C Ratio	-	-	0.092	0.049	-
HCM Control Delay (s)	-	-	9.5	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Attachment C

Traffic Signal Peak-Hour Warrant Analysis

TRAFFIC SIGNAL WARRANT ANALYSIS

City/County:	Marysville	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N		
State:	California	Isolated community with a population of less than 10,000? (Y or N)	N	Analyzed by:	Kimley-Horn
Date:	21-Apr-21	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	Analyzed by:	
Major Street:	McGowan Parkway	Approach Lanes - Major? (1 or 2)	1		
Minor Street:	NB SR-70 Ramps	Approach Lanes - Minor? (1 or 2)	2		

Scenario	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A Major Street	Warrant 1, Condition A Minor Street	Warrant 1, Condition B Major Street	Warrant 1, Condition B Minor Street	Warrant 1, Combination Warrant 80% of 1A Major Street	Warrant 1, Combination Warrant 80% of 1A Minor Street	Warrant 1, Combination Warrant 80% of 1B Major Street	Warrant 1, Combination Warrant 80% of 1B Minor Street	Warrant 2	Warrant 3, Condition A Minor Delay	Warrant 3, Condition A Minor Volume	Warrant 3, Condition A Total Intrsctn	Warrant 3, Condition B
Weekday PM Peak Hour															
Existing (2020)	868	247													74%
Opening Year (2021)	891	255													78%
Opening Year (2021) PP	897	260													80%
Weekend PM Peak Hour															
Existing (2020)	905	179													55%
Opening Year (2021)	928	187													60%
Opening Year (2021) PP	934	192													62%
Source:	MUTCD, 2011 Edition		Threshold	500 200	Threshold	750 100	Threshold	400 160	Threshold	600 80	MUTCD Figure	Warranting Volumes			MUTCD Figure
Created By:	Kimley-Horn and Associates, Inc.		Summary		Summary		Summary		Summary		4C-1 and 4C-2				4C-3 and 4C-4
			TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	Summary	Summary			Summary
			Met?	NO	Met?	NO	TOTAL	0	Met?	NO	TOTAL 0	TOTAL			TOTAL 0
											Met? NO	Met?			Met? No

COMMENTS/NOTES:	COMMENTS/NOTES:
Warrant 3: Peak Hour Traffic Signal Warrant Analysis	

TRAFFIC SIGNAL WARRANT ANALYSIS

City/County:	Marysville	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N		
State:	California	Isolated community with a population of less than 10,000? (Y or N)	N	Analyzed by:	Kimley-Horn
Date:	21-Apr-21	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	Analyzed by:	
Major Street:	SR-65	Approach Lanes - Major? (1 or 2)	2		
Minor Street:	South Beale Road	Approach Lanes - Minor? (1 or 2)	2		

Scenario	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A Major Street	Warrant 1, Condition A Minor Street	Warrant 1, Condition B Major Street	Warrant 1, Condition B Minor Street	Warrant 1, Combination Warrant 80% of 1A Major Street	Warrant 1, Combination Warrant 80% of 1A Minor Street	Warrant 1, Combination Warrant 80% of 1B Major Street	Warrant 1, Combination Warrant 80% of 1B Minor Street	Warrant 2	Warrant 3, Condition A Minor Delay	Warrant 3, Condition A Minor Volume	Warrant 3, Condition A Total Intrsctn	Warrant 3, Condition B
Weekday PM Peak Hour															
Existing (2020)	2048	219													146%
Opening Year (2021)	2086	227													151%
Opening Year (2021) PP	2097	232													155%
Weekend PM Peak Hour															
Existing (2020)	2416	173													115%
Opening Year (2021)	2454	181													121%
Opening Year (2021) PP	2465	186													124%
Threshold			600	200	900	100	480	160	720	80	MUTCD Figure 4C-1 and 4C-2	Warranting Volumes			MUTCD Figure 4C-3 and 4C-4
Summary			TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL		TOTAL	6
			Met?	NO	Met?	NO	TOTAL	0	Met?	NO	Met?	NO	Met?		Met?	Yes

Source: MUTCD, 2011 Edition
Created By: Kimley-Horn and Associates, Inc.

COMMENTS/NOTES:	COMMENTS/NOTES:
Warrant 3: Peak Hour Traffic Signal Warrant Analysis	



FINAL TRIBAL ENVIRONMENTAL IMPACT REPORT

ENTERPRISE RANCHERIA
FIRE MOUNTAIN CASINO MUSIC VENUE PROJECT

VOLUME II - FINAL TRIBAL ENVIRONMENTAL IMPACT REPORT

JUNE 2021

PREPARED FOR:

Enterprise Rancheria
1940 Feather River Blvd. #B
Oroville, CA 95965

PREPARED BY:

Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95811
(916) 447-3479
www.analyticalcorp.com

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TABLE OF CONTENTS

FIRE MOUNTAIN CASINO MUSIC VENUE PROJECT DRAFT TRIBAL ENVIRONMENTAL IMPACT REPORT

ES EXECUTIVE SUMMARY ES-1

ES.1 Summary Description of the Proposed Project ES-1
ES.2 Issues of Concern ES-1
ES.3 Alternatives to the Proposed Project ES-1
ES.3.1 No Action Alternative ES-1
ES.4 Environmental Impacts and Proposed Mitigation ES-2
ES.4.1 Unavoidable and Irreversible Significant Impacts ES-2
ES.4.2 Impacts and Mitigation Summary ES-2

1.0 INTRODUCTION 1-1

1.1 Background and Purpose of the Tribal Environmental Impact Report 1-1
1.2 General Setting of the Proposed Project 1-1
1.3 TEIR Process 1-2
1.3.1 Notice of Preparation and Comments (Section 11.2 of the Procedures) 1-2
1.3.2 Draft TEIR (Section 11.1 of the Procedures) 1-6
1.3.3 Public Review of the Draft TEIR (Section 11.3 of the Procedures) 1-6
1.3.4 Final TEIR (Section 11.4 of the Procedures) 1-6
1.3.5 Intergovernmental Agreement (Section 11.7 of the Procedures) 1-7
1.4 Draft TEIR Organization 1-7
1.5 Acronyms and Defined Terms Used in this TEIR 1-8

2.0 PROJECT DESCRIPTION 2-1

2.1 Overview and Background 2-1
2.2 Project Objectives 2-1
2.3 Existing Hard Rock Casino and Hotel 2-2
2.4 Description of the Proposed Project 2-2
2.4.1 Resort Expansion 2-3
2.4.2 Parking 2-3
2.4.3 Grading and Drainage 2-6
2.4.4 Water Supply 2-7
2.4.5 Wastewater Treatment and Disposal 2-8
2.4.6 Power Supply 2-8
2.4.7 Lighting 2-9
2.4.8 Access 2-9
2.4.9 Building Design and Landscaping 2-9
2.5 Project Construction 2-9
2.6 Project Operation 2-10

3.0 ENVIRONMENTAL ANALYSIS 3.1-1

3.1 Introduction to the Environmental Analysis 3.1-1
3.1.1 Significance Criteria 3.1-2

3.1.2 Cumulative Impacts 3.1-2
3.1.3 Mitigation Measures 3.1-2
3.2 Aesthetics 3.2-1
3.2.1 Regulatory Setting 3.2-1
3.2.2 Environmental Setting 3.2-3
3.2.3 Impact Analysis 3.2-8
3.2.4 Mitigation Measures 3.2-10
3.3 Air Quality 3.3-1
3.3.1 Regulatory Setting 3.3-1
3.3.2 Environmental Setting 3.3-8
3.3.3 Impact Analysis 3.3-12
3.3.4 Mitigation Measures 3.3-17
3.4 Biological Resources 3.4-1
3.4.1 Regulatory Setting 3.4-1
3.4.2 Environmental Setting 3.4-4
3.4.3 Impact Analysis 3.4-16
3.4.4 Mitigation Measures 3.4-18
3.5 Geology, Soils, and Mineral Resources 3.5-1
3.5.1 Regulatory Setting 3.5-1
3.5.2 Environmental Setting 3.5-3
3.5.3 Impact Analysis 3.5-9
3.6 Hazards and Hazardous Materials 3.6-1
3.6.1 Regulatory Setting 3.6-1
3.6.2 Environmental Setting 3.6-5
3.6.3 Impact Analysis 3.6-7
3.6.4 Mitigation Measures 3.6-11
3.7 Hydrology and Water Quality 3.7-1
3.7.1 Regulatory Setting 3.7-1
3.7.2 Environmental Setting 3.7-7
3.7.3 Impact Analysis 3.7-13
3.7.4 Mitigation Measures 3.7-16
3.8 Land Use and Population and Housing 3.8-1
3.8.1 Regulatory Setting 3.8-1
3.8.2 Environmental Setting 3.8-2
3.8.3 Impact Analysis 3.8-7
3.9 Noise 3.9-1
3.9.1 Regulatory Setting 3.9-1
3.9.2 Environmental Setting 3.9-7
3.9.3 Impact Analysis 3.9-14
3.9.4 Mitigation Measures 3.9-20
3.10 Public Services and Utilities and Service Systems 3.10-1
3.10.1 Regulatory Setting 3.10-1
3.10.2 Environmental Setting 3.10-2
3.10.3 Impact Analysis 3.10-6
3.11 Transportation/Traffic 3.11-1
3.11.1 Regulatory Setting 3.11-1
3.11.2 Environmental Setting 3.11-5
3.11.3 Impact Analysis 3.11-11

3.11.4 Mitigation Measures 3.11-21
3.12 Indirect and Cumulative Off-Reservation Environmental Impacts 3.12-1
3.12.1 Growth-Inducing Off-Reservation Impacts of the Proposed Project 3.12-1
3.12.2 Indirect Off-Reservation Impacts of the Proposed Project 3.12-2
3.12.3 Cumulative Off-Reservation Environmental Impacts of the Proposed Project 3.12-6
4.0 ALTERNATIVES 4-1
4.1 Introduction 4-1
4.2 Alternatives Evaluated in this Draft TEIR 4-1
4.2.1 No Action Alternative 4-1
4.3 Alternatives Eliminated from Consideration 4-1
4.3.1 Reduced Intensity Alternative 4-2
4.4 Comparison of Alternatives 4-3
5.0 REPORT AUTHORS 5-1
5.1 TEIR Authors 5-1
6.0 BIBLIOGRAPHY 6-1

TABLES

ES-1 Impacts and Mitigation Measures Summary Table ES-3
1-1 Acronyms and Definitions 1-8
3.3-1 NAAQS and Associated Violation Criteria 3.3-2
3.3-2 Yuba County Attainment Status 3.3-9
3.3-3 Greenhouse Gas CO_2 Equivalent 3.3-12
3.3-4 Proposed Project Construction Emissions 3.3-15
3.3-5 Proposed Project Operational Emissions 3.3-15
3.4-1 Special-Status Species with the Potential to Occur in the Vicinity of the Project Site 3.4-7
3.5-1 Modified Mercalli Intensity Scale 3.5-8
3.7-1 CVRWQCB Water Quality Objectives 3.7-9
3.7-2 CVRWQCB Groundwater Quality Objectives 3.7-11
3.8-1 Regional Population 3.8-6
3.8-2 Regional Housing Stock 3.8-6
3.9-1 Significance of Changes in Noise Exposure Levels 3.9-1
3.9-2 Maximum Noise Exposure from Transportation Noise Sources at Noise Sensitive Land Uses 3.9-3
3.9-3 Maximum Noise Exposure from Non-Transportation Noise Sources at Noise Sensitive Land Uses 3.9-4
3.9-4 Performance Standards for Non-Transportation Noise Sources 3.9-5
3.9-5 Section 8.20.140 Permitted Noise Levels 3.9-7
3.9-6 Definition of Acoustical Terms 3.9-8
3.9-7 Typical Sounds Levels Measured in the Environment 3.9-9
3.9-8 Vibration Source Levels for Construction Equipment 3.9-11
3.9-9 Existing Noise Environment 3.9-12
3.9-10 Typical Construction Equipment Noise 3.9-16
3.9-11 Existing Conditions vs Opening Year Conditions Plus Project 3.9-17
3.9-12 Predicted PPV at 200 Feet from Construction 3.9-18
3.10-1 Solid Waste Generation 3.10-11
3.11-1 Pre-COVID and Current Patron Data 3.11-8

3.11-2 Intersection Level of Service Criteria 3.11-9
3.11-3 Roadway Segment Level of Service Criteria 3.11-9
3.11-4 Existing Intersection Level of Service 3.11-10
3.11-5 Existing Roadway Segment Level of Service 3.11-10
3.11-6 Proposed Gas Station Project Trip Generation 3.11-12
3.11-7 Opening Year (2021) Intersection Level of Service 3.11-13
3.11-8 Opening Year (2021) Roadway Segment Level of Service 3.11-13
3.11-9 Trips Generated by the Proposed Project 3.11-15
3.11-10 Opening Year (2021) Plus Proposed Project Intersection Level of Service 3.11-18
3.11-11 Opening Year (2021) Plus Proposed Project Roadway Segment Level of Service 3.11-19
3.11-12 Intersection Queuing Evaluation 3.11-20
3.12-1 2035 Emissions Inventory for Yuba County 3.12-7
3.12-2 2035 Proposed Project Unmitigated Operational Emissions 3.12-8
3.12-3 Proposed Project GHG Emissions 3.12-9
3.12-4 Trip Generation Comparison 3.12-14

FIGURES

1-1 Regional Location 1-3
1-2 Aerial Site Plan 1-4
2-1 Site Plan 2-4
2-2 Architectural Rendering 2-5
3.2-1 Viewshed Locations 3.2-5
3.2-2a Viewsheds 3.2-6
3.2-2b Viewsheds 3.2-7
3.5-1 Soil Types 3.5-6
3.5-2 Regional Fault Locations 3.5-7
3.6-1 Fire Risk Severity Zones 3.6-8
3.8-1 Surrounding Zoning Designations 3.8-4
3.8-2 Farmland Designations 3.8-5
3.9-1 Noise Monitor Locations 3.9-13
3.11-1 Study Intersection and Roadway Segments 3.11-7

APPENDICES

Appendix A Off-Reservation Environmental Impact Analysis Checklist
Appendix B Notice of Preparation
Appendix C Notice of Preparation Comment Letters
Appendix D Revised Traffic Memorandum
Appendix E WWTP Engineering Report
Appendix F CalEEMod Output Files
Appendix G Special Status Species Lists
Appendix H EDR Radius Map Report
Appendix I Environmental Noise Assessment

EXECUTIVE SUMMARY

FIRE MOUNTAIN CASINO MUSIC VENUE PROJECT FINAL TRIBAL ENVIRONMENTAL IMPACT REPORT

EXECUTIVE SUMMARY

FIRE MOUNTAIN CASINO MUSIC VENUE PROJECT

ES.1 SUMMARY DESCRIPTION OF THE PROPOSED PROJECT

The Estom Yumeka Maidu Tribe of the Enterprise Rancheria (Tribe) proposes to expand its Hard Rock Hotel and Casino Sacramento at Fire Mountain (Resort). The Fire Mountain Casino Music Venue Project (Proposed Project) consists of the following major elements:

- Hard Rock LIVE!: The Proposed Project would include the construction of an live music venue consisting of up to approximately 75,000 square feet (sf); and
- Back of House (BOH): To meet the Resort's existing and anticipated needs, as well as to improve the efficiency and operations of support facilities, the Proposed Project includes approximately 20,000 sf of BOH space. This spaces constitutes expanded offices and warehouse facilities.

A conceptual site plan for the Proposed Project is provided as **Figure 2-1**. Regional access to the Project Site is provided by California State Route 65 and California State Route 70, which connect Interstate 5, CA State Route 99, and Interstate 80 to the vicinity. The Project Site is accessible via existing driveways on Forty Mile Rd.

Potable water is currently supplied to the Resort via one well located on land owned by the Tribe. The Proposed Project would continue to rely on groundwater as the source of potable water. The Proposed Project would continue to treat wastewater at the existing on-reservation wastewater treatment plant and use existing disposal options that entail recycling via toilet and urinal flushing and landscape irrigation, with off-site storage for excess treated wastewater.

ES.2 ISSUES OF CONCERN

A Notice of Preparation (NOP) for the Proposed Project (**Appendix B**) was circulated for a public review period, which began December 22, 2020, and ended January 20, 2021. The NOP included a brief description of the Proposed Project, the location, and a summary of potential environmental impacts to off-reservation resources that could result from the Proposed Project. Comments received on the NOP (**Appendix C**) were considered in the preparation of this Draft Tribal Environmental Impact Report (TEIR). General issues and specific comments made in response to the public review of the NOP are summarized in **Section 1.0**, **Introduction**, organized according to resource area. Potentially significant off-reservation environmental impacts are addressed in **Section 3.0**, **Environmental Analysis**. Mitigation is proposed where warranted.

ES.3 ALTERNATIVES TO THE PROPOSED PROJECT

The following alternative to the Proposed Project is discussed in detail in **Section 4.0**, **Alternatives**, of this Draft TEIR:

ES.3.1 NO ACTION ALTERNATIVE

The Resort would not be expanded and conditions would remain consistent with current operations.

ES.4 ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION

ES.4.1 UNAVOIDABLE AND IRREVERSIBLE SIGNIFICANT IMPACTS

The environmental analyses provided in **Section 3.0**, **Environmental Analysis**, address all potential off-reservation environmental impacts of the Proposed Project, as required by the Secretarial Procedures for the Tribe (Procedures). With the implementation of mitigation measures, all potentially significant off-reservation impacts would be reduced to less-than-significant levels. There are no unavoidable or irreversible significant impacts attributable to the Proposed Project.

ES.4.2 IMPACTS AND MITIGATION SUMMARY

Table ES-1 presents a summary of potential off-reservation environmental impacts of the Proposed Project and RIA and recommended mitigation measures that would avoid or minimize potentially significant off-reservation impacts. This table is based on the analysis of identified off-reservation environmental impacts attributable to the Proposed Project and RIA presented in **Section 3.0**, **Environmental Analysis**, and **Section 4.0**, **Alternatives**. In this table, the level of significance of each off-reservation environmental impact is indicated both before and after the application of the recommended mitigation measure(s). For detailed discussions of all identified off-reservation environmental impacts attributable to the Proposed Project and corresponding mitigation measures, the reader is referred to the individual environmental analysis sections within **Section 3.0**, **Environmental Analysis**, of this Draft TEIR.

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact		Significance Before Mitigation	TEIR-Identified Mitigation Measure		Significance After Mitigation
3.2	**Aesthetics**				
3.2.1	The Proposed Project would not affect any off-reservation scenic vista.	***LTS***		None warranted	***LTS***
3.2.2	The Proposed Project would not substantially damage any off-reservation scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings adjacent to a state scenic highway.	***LTS***		None warranted	***LTS***
3.2.3	The Proposed Project would add additional sources of lighting and glare at the Resort, which could affect off-reservation day or nighttime views in the area.	***PS***	3.2-1	The Tribe shall ensure that the following measures are implemented (through contractual requirements if and as needed) to minimize the effects of lighting and glare from the construction and operation of the Proposed Project: a. The Tribe shall limit construction activities for the Proposed Project to between 7:00 a.m. and 7:00 p.m. to the extent feasible and reasonable. If dusk or nighttime activities are necessary at the Project Site, lighting for those activities shall be strictly limited to the minimum locations necessary for safety and security and shall be downcast onto the worksite to prevent lighting and glare impacts on off-reservation residential structures. b. Permanent exterior lighting for the Proposed Project would be the same as the exterior lighting at the existing Casino Resort.	***LTS***
3.3	**Air Quality**				
3.3.1	The Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan, violate any air quality standard or contribute to existing or projected air quality violation, or result in a cumulatively considerable net increase of any criteria	***PS***	3.3-1	To reduce construction emissions, the Tribe shall require that construction contractors implement the following best management practices during construction:	***LTS***

PS = Potentially Significant NI = No Impact LTS = Less than Significant

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

	Impact	Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
	pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.		• Off-road construction equipment shall utilize tier three engines as defined by the USEPA's Vehicle Emission and Fuel Standards Program, to the extent that such equipment is feasibly available. In addition, construction equipment shall be operated with a level three diesel particulate filter. • Exposed soil shall be sprayed with water daily as needed. • Dust emissions shall be minimized during transport of fill material or soil by wetting down loads, ensuring adequate freeboard (space from the top of the material to the top of the truck bed) on trucks, and/or covering loads. • Dirt, gravel, and debris piles shall be covered as needed to reduce dust. 3.3-2 Signs limiting traffic speeds in the unpaved parking lot to no more than 15 miles per hour will be strategically placed at the entrance to and throughout the unpaved parking lot. Additionally, on the days that the unpaved overflow parking lots are used for employee and/or visitor parking, the Tribe shall spray exposed parking areas with water or dust suppressants as needed.	
3.3.2	The Proposed Project would not expose off-reservation sensitive receptors to substantial CO concentrations.	***LTS***	None warranted	***LTS***
3.3.3	The Proposed Project would not expose off-reservation sensitive receptors to substantial DPM concentrations.	***LTS***	None warranted	***LTS***
3.3.4	The Proposed Project would not create objectionable odors affecting a substantial number of people off reservation.	***NI***	None warranted	***NI***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact		Significance Before Mitigation	TEIR-Identified Mitigation Measure		Significance After Mitigation
3.4	**Biological Resources**				
3.4.1	The Proposed Project could potentially have a substantial adverse impact, either directly or through habitat modifications, on any species identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS).	***PS***	3.4-1	Construction activities within the identified habitat for giant garter snake shall be avoided as identified in BO. The USFWS guidelines for giant garter snake avoidance and minimization will be followed. Construction personnel shall participate in a USFWS approved worker environmental awareness program. Under this program, workers shall be informed about the presence of giant garter snakes and habitat associated with the species and that unlawful take of the animal or destruction of its habitat is a violation of the Act. Prior to construction activities, a qualified biologist approved by the Service shall instruct all construction personnel about: (1) the life history of the giant garter snake; (2) the importance of irrigation canals, marshes/wetlands, and seasonally flooded areas, such as rice fields, to the giant garter snake; (3) sensitive areas, detailing limits of the construction area, showing workers the designated buffers, and explaining why they must stay out of the buffers. Proof of this instruction shall be submitted to the Sacramento Fish and Wildlife Office. No more than 24-hours prior to start of construction activities (site preparation and/or grading), the southern portion of the project area adjacent to the ditch shall be surveyed for the presence of giant garter snake. If construction activities stop on the site for a period of two weeks or more, a new giant garter snake survey should be completed no more than 24-hours prior to the re-start of construction activities.	***LTS***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact	Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
		A qualified biologist shall conduct monitoring for giant garter snake during construction within the identified giant garter snake boundary area. If a snake is encountered during construction activities, the monitoring biologist shall have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake will not be harmed. Giant garter snakes encountered during construction activities should be allowed to move away from construction activities on their own. Capture and relocation of trapped or injured individuals can only be attempted by personnel or individuals with current USFWS recovery permits pursuant to section 10(a)1(A) of the Act. A qualified biologist shall be available for monitoring for giant garter snakes throughout the duration of construction. Establish fencing prior to construction to demarcate the construction area and prevent encroachment of construction personnel and equipment into adjacent habitats for sensitive species. The USFWS recommends that plastic mono-filament netting (erosion control matting) not be used for erosion control. Snakes may become entangled in it. Acceptable substitutes include coconut-coir matting or tackified hydroseeding. Pre-construction surveys for giant garter snake shall be completed by a qualified biologist along the South Yuba Water District irrigation ditch to follow the USFWS guidelines.	

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact	Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
		3.4-2 If feasible, construction activities related to the Proposed Project, including movement of heavy equipment and grading, shall be commence outside of the nesting period (generally between March and mid-September). If construction activities cannot be avoided during the nesting period, a qualified biologist shall conduct preconstruction surveys for raptor nests within 500 feet of the area of disturbance. Impacts to potential foraging habitat for Swainson's hawk shall be mitigated according to the guidelines identified in the California Department of Fish and Wildlife's Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California (1994). The surveys shall be conducted no more than 5 days before the beginning of construction. If no active bird nests are identified, no further mitigation is necessary. Surveys for the Swainson's Hawks will include a survey known raptor nesting sites within 0.5 miles of the disturbed area, as land access allows. If active bird nests are identified, construction activities within 500 feet, or another distance as determined by a qualified biologist based on the identified species, shall be postponed until after the nesting season, or until after a qualified biologist has determined that the young have fledged and are independent of the nest site. No known active nests shall be disturbed without a permit or other authorization from the USFWS and/or CDFW. Refer to **Mitigation Measure 3.7-1**.	
3.4.2 The Proposed Project would not have a substantial adverse effect on any off-reservation	***NI***	None warranted	***NI***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact		Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
	riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.			
3.4.3	The Proposed Project would not have a substantial adverse effect on federally protected off-reservation wetlands as defined by Section 404 of the Clean Water Act.	***LTS***	None warranted	***LTS***
3.4.4	The Proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	***NI***	None warranted	***NI***
3.4.5	The Proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP.	***NI***	None warranted	***NI***
3.5	**Geology and Soils**			
3.5.1	The Proposed Project would not expose off-reservation people or structures to substantial adverse effects caused by rupture of a known earthquake fault or other strong seismic ground shaking.	***LTS***	None warranted	***LTS***
3.5.2	The Proposed Project would not expose off-reservation people or structures to substantial adverse effects involving seismic-related ground failure, including liquefaction.	***NI***	None warranted	***NI***
3.5.3	The Proposed Project would not expose off-reservation people or structures to substantial adverse effects involving landslides.	***NI***	None warranted	***NI***
3.5.4	The Proposed Project could result in substantial off-reservation soil erosion or the loss of topsoil.	***PS***	Refer to **Mitigation Measure 3.7-1**.	***LTS***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact		Significance Before Mitigation	TEIR-Identified Mitigation Measure		Significance After Mitigation
3.6	**Hazards and Hazardous Materials**				
3.6.1	The Proposed Project could potentially create a significant hazard to the off-reservation public or the off-reservation environment through the routine transport, use, or disposal of hazardous materials.	***PS***	3.6-1	Protection of the Environment from Hazardous Materials during Construction: ▪ During construction of the Proposed Project, the Tribe shall ensure, through the enforcement of contractual obligations of the contractors performing such construction, that all contractors prepare HMBPs if quantities of hazardous materials to be used are above applicable threshold criteria, and that such contractors transport, store, and handle construction-related hazardous materials in a manner consistent with applicable regulations and guidelines. These requirements may include, but are not limited to, applicable federal, state, and/or local regulatory agency protocols for off-reservation transportation and storage of materials and applicable federal and Tribal protocols for on-trust land storage and handling of materials. ▪ As discussed in **Section 3.7**, **Hydrology and Water Quality**, a Stormwater Pollution Prevention Plan shall be prepared for the Proposed Project that identifies best management practices (BMP) to be implemented during construction of the Proposed Project, as required by the NPDES Construction Stormwater General Permit. All BMPs required by the NPDES General Permit shall be implemented to ensure that hazardous materials do not enter any nearby waterways. BMPs outlined in **Mitigation Measure 3.7-1** shall be implemented,	***LTS***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact	Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
		including the following practices that pertain to reducing the potential for the release of hazardous materials during construction. ○ Hazardous materials such as fuels and solvents used on the construction site shall be stored in covered containers and protected from rainfall, runoff, vandalism, and accidental release to the environment. All stored fuels and solvents shall be contained in an area of impervious surface with containment capacity equal to the volume of materials stored. ○ A stockpile of spill cleanup materials shall be readily available at all construction sites. Construction workers shall be trained in spill prevention and cleanup, and individuals shall be designated as responsible for prevention and cleanup activities. ○ Equipment shall be properly maintained in designated areas with runoff and erosion control measures to minimize accidental release of pollutants. ▪ In the event that contaminated soil is encountered or suspected during construction-related earth-moving activities, all work will be halted until a professional hazardous materials specialist or other qualified individual assesses the extent of contamination. If contamination is determined to be hazardous, the Tribe will consult with the USEPA to determine the	

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact	Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
		appropriate course of action to prevent potential contamination to the off-Reservation environment. If necessary, the Tribe shall implement a remediation plan in conjunction with continued project construction. Contaminated soils that are determined to be hazardous will be disposed of in accordance with federal regulations.	
3.6.2 The Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed off-reservation school.	***NI***	None warranted	***NI***
3.6.3 The Proposed Project could potentially 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.	***PS***	Refer to **Mitigation Measure 3.6-1.**	***LTS***
3.6.4 The Proposed Project could expose off-reservation people or structures to a significant risk of loss, injury or death involving wildland fires.	***PS***	3.6-2 Construction personnel shall follow written standard operating procedures (SOPs) for servicing and operating construction equipment and vehicles to reduce the potential for wildland fires. These SOPs shall address equipment use and the storage and use of hazardous materials during construction of the Proposed Project. The SOPs shall include the following procedures, to be implemented where feasible and when reasonable: 1. Refueling shall be conducted only with approved pumps, hoses, and nozzles; 2. Catch-pans shall be placed under equipment to catch potential spills during servicing;	***LTS***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact		Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
			3. All disconnected hoses shall be placed in containers to collect residual fuel from the hose; 4. Vehicle engines shall be shut down during refueling; 5. No smoking, open flames, or welding shall be allowed in refueling or service areas; 6. Service trucks shall be provided with fire extinguishers; 7. Staging areas, welding areas, and areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel. To the extent feasible, the contractor shall keep these areas clear of combustible materials to maintain a firebreak; 8. Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order; and 9. All hazardous materials transported to or from the Project Site shall be transported in accordance with applicable state and federal regulations as required based on quantity and class of materials.	
3.7	**Hydrology and Water Quality**			
3.7.1	The Proposed Project would not violate any water quality standards or WDRs.	***LTS***	None warranted	***LTS***
3.7.2	The Proposed Project would not substantially deplete off-reservation groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table (e.g., cause the production rate of pre-existing nearby wells to drop to a	***LTS***	None warranted	***LTS***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact	Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
level that would not support existing land uses or planned uses for which permits have been granted).			
3.7.3 Construction of the Proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of a course of a stream or river, in a manner that would result in substantial erosion or siltation off site, or provide substantial additional sources of polluted runoff off reservation, but could result in off-reservation siltation from erosion or polluted off-reservation runoff.	***PS***	3.7-1 Stormwater General NPDES Permit for Construction Activities. The Tribe shall comply with the terms of the USEPA's Stormwater General NPDES Permit for Construction Activities prior to and during construction of the Proposed Project. As part of its compliance with the permit, the Tribe shall prepare and implement a SWPPP for construction activities. The SWPPP shall identify pollutant sources that may affect the quality of stormwater discharge. The SWPPP shall include site-specific BMPs to reduce these pollutants and minimize the potential for their release into natural waters. BMPs may include, but are not limited to, the following: a. If excavation occurs during the rainy season, stormwater runoff from the construction area shall be regulated through a stormwater management/erosion control plan that shall include temporary on-site silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters. Stockpiles of loose material shall be covered and runoff diverted away from exposed soil material. If work stops due to rain, a positive grading away from slopes shall be provided to carry the surface runoff to areas where flow would be controlled, such as the temporary silt basins. Sediment basins/traps shall be located and operated to minimize the amount of off-reservation sediment transport. Any trapped sediment shall be removed from the basin or trap and placed at a suitable location on site, away from concentrated flows, or removed to an approved disposal site.	***LTS***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact	Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
		b. Temporary erosion control measures (such as fiber rolls, staked straw bales, detention basins, check dams, geo fabric, sandbag dikes, and temporary revegetation or other ground cover) shall be provided until perennial revegetation or landscaping is established and can minimize discharge of sediment into nearby waterways. For construction within 500 feet of a water body, appropriate erosion control measures shall be placed upstream adjacent to the water body. c. No disturbed surfaces shall be left without erosion control measures in place during the spring and winter months. d. Hazardous materials such as fuels and solvents used on the construction site shall be stored in covered containers and protected from rainfall, runoff, vandalism, and accidental release to the environment. All stored fuels and solvents shall be contained in an area of impervious surface with containment capacity equal to the volume of materials stored. e. A stockpile of spill cleanup materials shall be readily available at all construction sites. Construction workers shall be trained in spill prevention and cleanup, and individuals shall be designated as responsible for prevention and cleanup activities. f. Equipment shall be properly maintained in designated areas with runoff and erosion control measures to minimize accidental release of pollutants.	
3.7.4 Construction of the Proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or	***LTS***	None warranted	***LTS***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact		Significance Before Mitigation	TEIR-Identified Mitigation Measure		Significance After Mitigation
	substantially increase the rate or amount of surface runoff in a manner that would result in flooding off site.				
3.7.5	The Proposed Project would not place within a 100-year flood hazard area any structure, and therefore would not impede or redirect off-reservation flood flows.	***NI***		None warranted	***NI***
3.7.6	The Proposed Project would not 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 dam or levee.	***NI***		None warranted	***NI***
3.8	**Land Use and Population and Housing**				
3.8.1	The Proposed Project would not conflict with any off-reservation land use plan (including any HCP or NCCP), policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect.	***NI***		None warranted	***NI***
3.8.2	The Proposed Project would not induce substantial off-reservation population growth, nor would it displace any existing housing; therefore, the Proposed Project would not necessitate the construction of off-reservation housing.	***LTS***		None warranted	***LTS***
3.9	**Noise**				
3.9.1	The Proposed Project would expose 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.	***PS***	3.9-1	The following shall be done during construction of the Proposed Project to reduce the induced noise to acceptable levels: 1. Construction activities within a half-mile of existing noise sensitive uses shall be limited to daytime hours (7 a.m. and 7 p.m.). 2. Engine-powered construction equipment shall be fitted with adequate mufflers and enclosures as supplied by the manufacturer,	***LTS***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact		Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
			maintained in good condition. During the use of engine-powered construction equipment located within a 1,000 feet of sensitive receptors (the home across Forty Mile Rd from the Project Site), the construction site should be shielded from those sensitive receptors by temporary barriers blocking line of sight between the source and receiver.	
3.9.2	The Proposed Project would not expose off-reservation persons to excessive groundborne vibration or groundborne noise levels.	***LTS***	None warranted	***LTS***
3.9.3	The Proposed Project would not result in a substantial permanent increase in ambient noise levels in the off-reservation vicinity of the project.	***LTS***	None warranted	***LTS***
3.9.4	During construction, the Project would not result in a substantial temporary increase in ambient noise levels in the off-reservation vicinity of the project.	***PS***	Refer to **Mitigation Measure 3.9-1.**	***LTS***
3.10	**Public Services, Utilities, and Service Systems**			
3.10.1	The Proposed Project would not result in the need for the construction of new or the alteration of existing off-reservation governmental fire protection facilities.	***NI***	None warranted	***NI***
3.10.2	The Proposed Project would not result in the need for the construction of new or the alteration of existing off-reservation governmental emergency medical facilities.	***NI***	None warranted	***NI***
3.10.3	The Proposed Project would not result in the need for the construction of new or the alteration of existing off-reservation governmental law enforcement facilities.	***NI***	None warranted	***NI***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact		Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
3.10.4	The Proposed Project would not result in the need for the construction of new or the alteration of existing governmental criminal justice facilities.	***NI***	None warranted	***NI***
3.10.5	The Proposed Project would not result in the need for the construction of new or the alteration of existing off-reservation public school facilities.	***NI***	None warranted	***NI***
3.10.6	The Proposed Project would not require the construction of any new water or wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant off-reservation environmental effects.	***NI***	None warranted	***NI***
3.10.7	The Proposed Project would not exceed off-reservation wastewater treatment requirements of the CVRWQCB.	***NI***	None warranted	***NI***
3.10.8	The Proposed Project would not require the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant off-reservation environmental impacts.	***NI***	None warranted	***NI***
3.10.9	The Proposed Project would not affect performance objectives for the Recology Ostrom Road Landfill and therefore would not result in the need for the construction of new or the alteration of existing off-reservation governmental landfill facilities.	***LTS***	None warranted	***LTS***
3.10.10	The Proposed Project would not require or result in the construction of new electrical distribution facilities or expansion of existing facilities, the construction of which could cause significant off-reservation environmental effects.	***NI***	None warranted	***NI***
3.11	**Transportation**			

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact		Significance Before Mitigation	TEIR-Identified Mitigation Measure		Significance After Mitigation
3.11.1	The Proposed Project would not 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).	***LTS***		None warranted	***LTS***
3.11.2	Operation of the Proposed Project would generate new vehicle trips that would cause an increase in off-reservation traffic; however, this increase would not cause any study area intersection to exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated off-reservation roads or highways.	***PS***	3.11-1	**Intersection Improvements** **a. Forty Mile Rd at NB SR-65 Ramps:** Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards future improvements at this intersection as determined by an Intersection Control Evaluation (ICE). b. **McGowan Parkway at NB SR-70 Ramps:** Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards future improvements at this intersection as determined by an Intersection Control Evaluation (ICE). **c. SR-65 at Main Street:** Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards improvements throughout Wheatland, including the Wheatland Bypass. d. **SR-65 at South Beale Road:** The Tribe shall contribute its proportionate share towards future improvements at this intersection as determined by an Intersection Control Evaluation (ICE).	***LTS***
3.11.3	Operation of the Proposed Project would generate new vehicle trips that would cause an increase in off-reservation traffic; however, this increase would not cause any study area roadway segment to exceed, either individually	***LTS***		None warranted	***LTS***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact		Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
	or cumulatively, a level of service standard established by the county congestion management agency for designated off-reservation roads or highways.			
3.11.4	The Proposed Project would not substantially increase hazards to an off-reservation design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	***LTS***	None warranted	***LTS***
3.11.5	The Proposed Project would not result in inadequate emergency access for off-reservation responders.	***LTS***	None warranted	***LTS***
3.12	**Indirect and Cumulative Off-Reservation Environmental Impacts**			
Growth-Inducing Off-Reservation Impacts of the Proposed Project				
	The Proposed Project would not induce "disorderly" growth.	***LTS***	None warranted	***LTS***
Indirect Off-Reservation Impacts of the Proposed Project				
	Aesthetics	***LTS***	None warranted	***LTS***
	Air Quality	***LTS***	None warranted	***LTS***
	Biological Resources	***LTS***	None warranted	***LTS***
	Geology and Soils	***LTS***	None warranted	***LTS***
	Hazards and Hazardous Materials	***LTS***	None warranted	***LTS***
	Hydrology and Water Quality	***LTS***	None warranted	***LTS***
	Land Use and Population and	***LTS***	None warranted	***LTS***
	Noise	***LTS***	None warranted	***LTS***

TABLE ES-1
IMPACTS AND MITIGATION MEASURES SUMMARY TABLE

Impact	Significance Before Mitigation	TEIR-Identified Mitigation Measure	Significance After Mitigation
Public Services and Utilities and Service Systems	***LTS***	None warranted	***LTS***
Transportation/Traffic	***LTS***	None warranted	***LTS***
Cumulative Off-Reservation Environmental Impacts of the Proposed Project			
Aesthetics	***PS***	Refer to **Mitigation Measure 3.2-1**.	***LTS***
Air Quality	***LTS***	None warranted	***LTS***
Biological Resources	***LTS***	None warranted	***LTS***
Geology and Soils	***PS***	Refer to **Mitigation Measure 3.7-1**.	***LTS***
Hazards and Hazardous Materials	***PS***	Refer to **Mitigation Measure 3.6-1** and **Mitigation Measure 3.7-2**.	***LTS***
Hydrology and Water Quality	***PS***	Refer to **Mitigation Measure 3.7-1**.	***LTS***
Land Use and Population and Housing	***LTS***	None warranted	***LTS***
Noise	***LTS***	None warranted	***LTS***
Public Services and Utilities and Service Systems	***LTS***	None warranted	***LTS***
Transportation/Traffic	***LTS***	None warranted	***LTS***

SECTION 1.0

INTRODUCTION

SECTION 1.0

INTRODUCTION

1.1 BACKGROUND AND PURPOSE OF THE TRIBAL ENVIRONMENTAL IMPACT REPORT

The Estom Yumeka Maidu Tribe of the Enterprise Rancheria (Tribe) owns and operates the Hard Rock Hotel and Casino Sacramento at Fire Mountain (Resort) on lands in Yuba County that are held in trust by the United States of America for the Tribe. The Resort is located at 3317 Forty Mile Rd, Wheatland, CA 95692 (Project Site).

The Resort is owned and operated by the Tribe pursuant to federal law and the Secretarial Procedures (Procedures) issued in August 2016 regarding Class III Gaming operations. The Procedures require that, before beginning construction of any new "Project" (as defined in the Procedures) at the Resort, the Tribe must prepare a Tribal Environmental Impact Report (TEIR) that analyzes the potential off-reservation environmental impacts of that Project. Under the Procedures, "off reservation" refers to all locations other than the "Yuba Parcel" which refers to the area described herein as the Project Site. Thus, a TEIR must identify and analyze potentially significant environmental impacts that may occur off trust land.

The process for conducting a TEIR is established by Section 11.0 of the Procedures, and requires that a TEIR consider all the potential off-reservation environmental impacts listed in the Environmental Impact Analysis Checklist attached to the Procedures as Appendix B (Checklist). A copy of the Checklist is included as **Appendix A** of this TEIR.

The Tribe proposes to enhance the existing Resort by the construction of the Fire Mountain Casino Music Venue Project (Proposed Project), consisting of the addition and expansion of amenities and functional spaces at the Resort. The Proposed Project includes the construction of an indoor live music venue and the expansion of the Resort's back of house. The Proposed Project meets the definition of a "Project" under the Procedures and therefore the Tribe has prepared this TEIR in accordance with Section 11.0 and the Checklist (**Appendix A**) of the Procedures to determine whether the construction and operation of the Proposed Project would likely result in potentially significant impacts on the off-reservation environment. Comments received during the scoping process were considered during the preparation of this TEIR, as described in **Section 1.3.1**. A description of the Proposed Project is provided in **Section 2.0**, **Project Description**, of this TEIR. The existing off-reservation environmental setting and the potentially significant off-reservation environmental impacts of the Proposed Project are addressed in detail in **Section 3.0**, **Environmental Analysis**, of this TEIR. The TEIR also evaluates one alternative to the Proposed Project, the Resort No Action Alternative, in **Section 4.0**, **Alternatives**.

1.2 GENERAL SETTING OF THE PROPOSED PROJECT

The Project Site is located in the southern area of Yuba County (**Figure 1-1**), southeast of Marysville/Olivehurst. Regional access to the Project Site is provided by California State Route 65 and

California State Route 70, which connect Interstate 5, CA State Route 99, and Interstate 80 to the vicinity. The Project Site is accessible via existing driveways on Forty Mile Rd.

The Project Site consists of trust lands that were previously disturbed for the construction of the Resort, including the existing casino, hotel, associated infrastructure, surface parking, and landscaped areas. The Project Site is surrounded in all directions by agricultural land. **Figure 1-2** provides an aerial view of the Project Site and the immediate vicinity.

The Project Site currently includes the Resort and associated parking, Additional parking areas were added to lands to the north and east of the Project Site that were leased by the Tribe before the existing Resort was opened and are still in use today to support the Resort. This area is referred to in this TEIR as the "Land Leased by Tribe" and is shown on **Figure 1-2**.

1.3 TEIR PROCESS

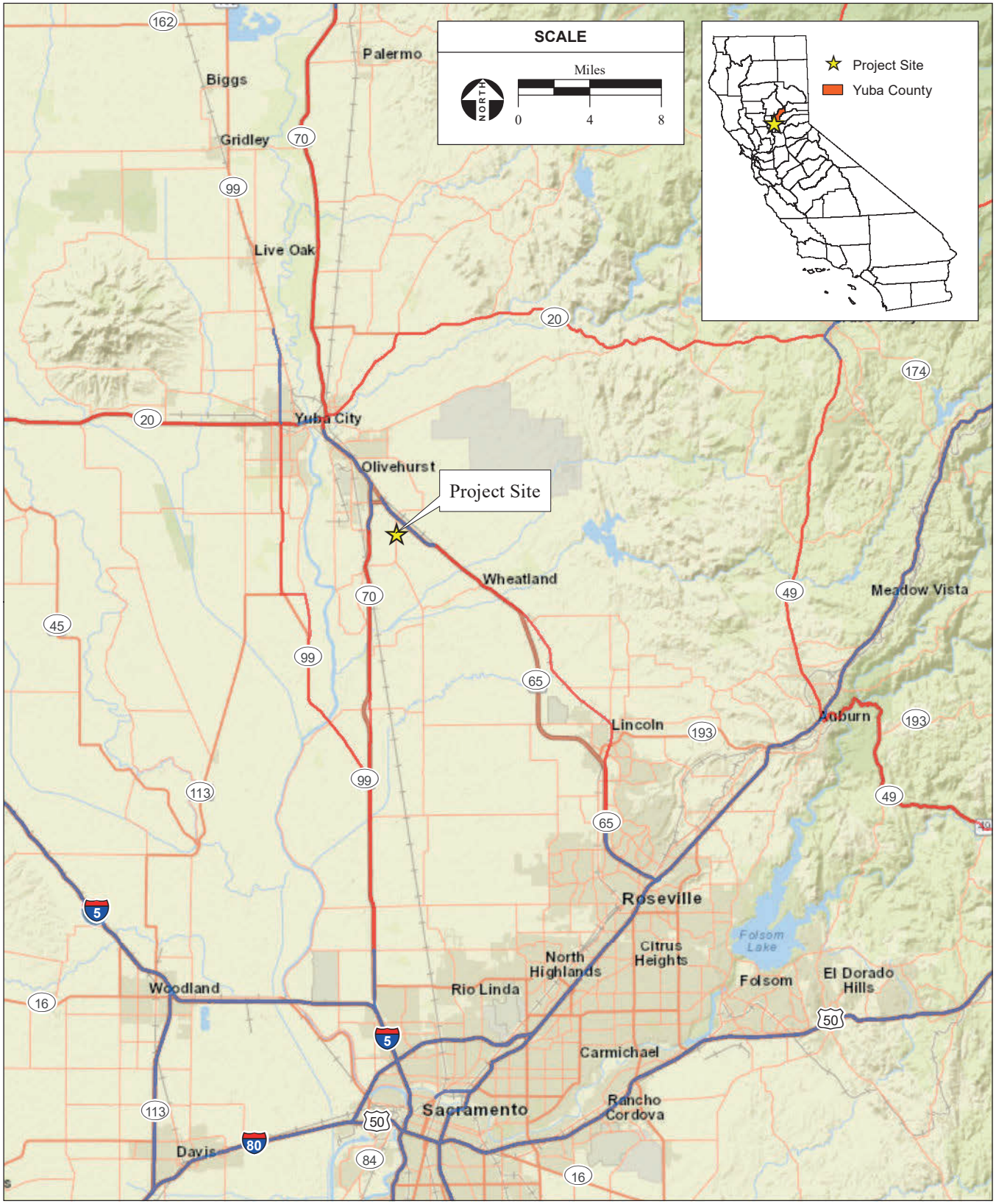
This document was prepared in compliance with Section 11.0 of the Procedures, which requires that a TEIR be prepared before the commencement of a Project. "Project" is defined by the Procedures to include any activity on the reservation directly related to the operation of Gaming Activities or the Gaming Operation that may cause a Significant Effect on the Off-Reservation Environment, including the construction of a new Gaming Facility, or the renovation, expansion or modification of an existing Gaming Facility (refer to Section 2.24 of the Procedures). The Proposed Project is a Project under the Procedures.

This TEIR describes the existing setting of the Project Site and vicinity, analyzes potential off-reservation environmental impacts of the Proposed Project and Alternative, and recommends mitigation measures to eliminate or minimize the identified potentially significant off-reservation environmental impacts. In accordance with the Procedures, the potential off-reservation environmental impacts are identified for each specific environmental resource area included in the Checklist (**Appendix A**), as well as comments received during the scoping process, described below.

1.3.1 NOTICE OF PREPARATION AND COMMENTS (SECTION 11.2 OF THE PROCEDURES)

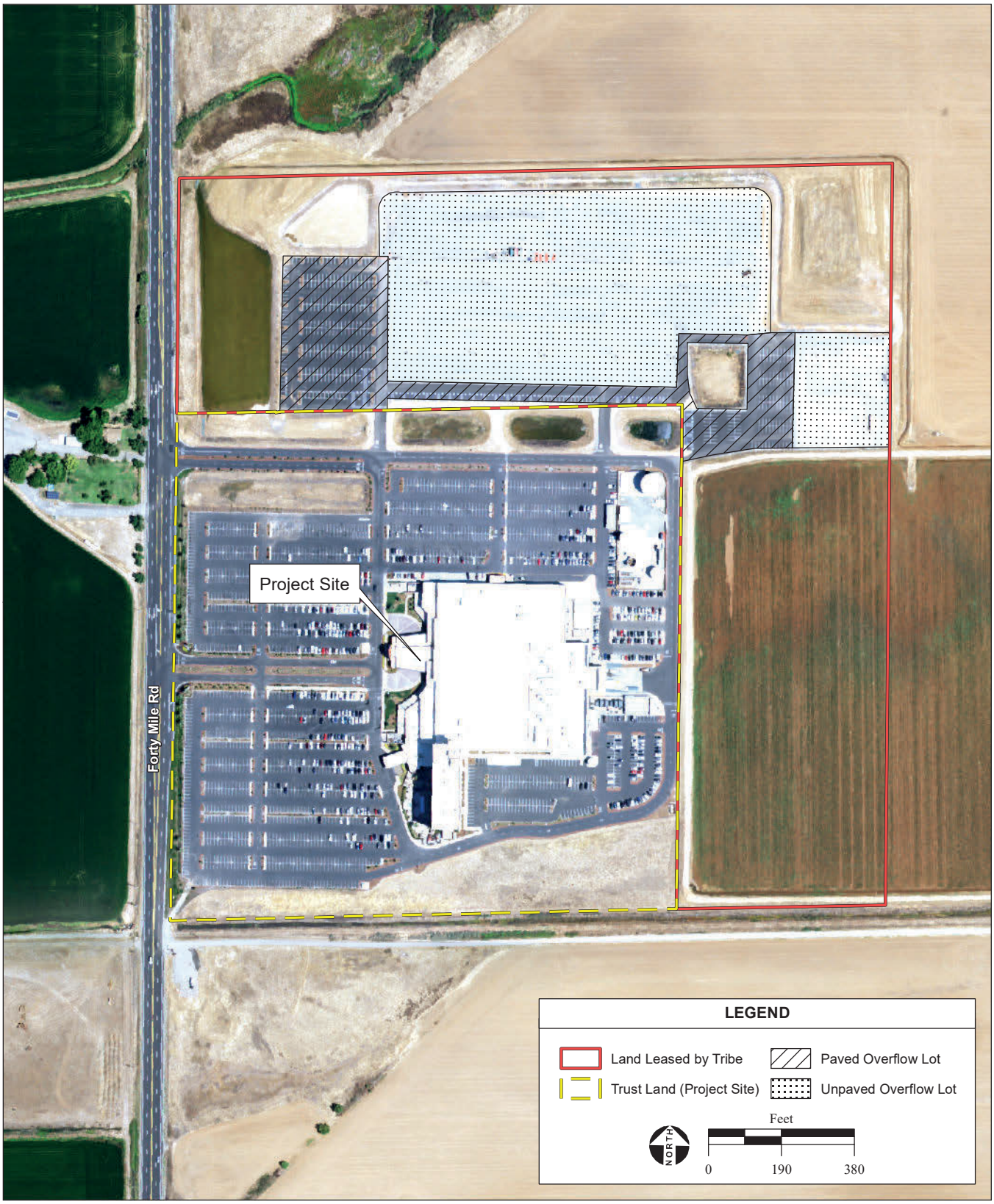
Pursuant to the Procedures, the Tribe issued a Notice of Preparation (NOP) of a TEIR for the Proposed Project on December 22, 2020, soliciting comments concerning the off-reservation impacts to be addressed within the TEIR.

In response to the NOP (included in **Appendix B**), the Tribe received two comment letters from the California Department of Transportation (Caltrans) and the Native American Heritage Commission (NAHC), copies of each of which are included in **Appendix C**. The letters were carefully reviewed, and environmental issues within the scope of off-reservation environmental review required by Section 11.0 of the Procedures incorporated within this TEIR. A brief summary of the specific comments made by Caltrans and the NAHC is provided below.



SOURCE: ESRI, 2020; AES, 1/19/2021

Figure 1-1
Regional Location



SOURCE: NAIP aerial photograph, 7/10/2020;
Yuba County GIS, 2020; AES, 2/24/2021

Figure 1-2
Aerial Site Plan

Caltrans Comments

Caltrans' comments on the NOP pertained to the regional transportation network and are summarized as follows:

- Caltrans requests that a transportation analysis be completed for the Proposed Project that provides a projection of trip generation and evaluates operations at four particular access points to/from the Project Site in the opening year and the cumulative year during A.M., P.M., and event peak hours. Caltrans also requests that the transportation analysis include details about the Proposed Project such as proposed number of seats, the probability of coinciding events with the nearby Toyota Amphitheater, event traffic control plans, and a site plan indicating any existing and proposed driveways, circulation patterns, and signal warrants at these locations.

  A traffic memo has been developed for the Proposed Project in accordance with the recommendations from Caltrans. The traffic memo is included as ***Appendix D*** *of this TEIR. The traffic memo includes a description of the study area roadway network and methodologies used to analyze off-reservation impacts of the Proposed Project on that roadway network. A summary of the results of the traffic memo is provided in* ***Section 3.11, Transportation/Traffic****, of this TEIR. Additionally, the need for traffic control during coinciding events with the nearby Toyota Amphitheater is addresses in* ***Section 3.11, Transportation/Traffic****.*

- Caltrans requested an analysis of Vehicle Miles Traveled (VMT).

  In coordination with Caltrans, it was determined that a VMT analysis is not required for the Proposed Project as the Procedures do not identify VMT impacts as significance criteria for the evaluation of off-reservation impacts related to transportation and traffic.

- Caltrans requests that the Proposed Project acquires an encroachment permit issued by Caltrans for any construction within the State's Right of Way.

  The Proposed Project does not propose any off-reservation construction or any construction within the State's Right of Way. Therefore, an encroachment permit is not necessary for construction of the Proposed Project. A detailed analysis of traffic-related impacts is presented in ***Section 3.11, Transportation/Traffic****.*

NAHC Comments

NAHC provided comments on the NOP that related to CEQA requirements and tribal cultural resources and are summarized as follows:

- The NAHC summarizes CEQA requirements as they relate to environmental analysis of proposed development projects.

  The Project Site is owned in trust by the Tribe; therefore, CEQA does not apply to the Proposed Project. This Draft TEIR addresses the potential physical and environmental effects of the Proposed Project per the requirements of the Procedures.

- The NAHC summarizes Assembly Bill 52 and Senate Bill 18 requirements as they relate to tribal consultation.

The Project Site is owned in trust by the Tribe; therefore, Assembly Bill 52 and Senate Bill 18 do not apply to the Proposed Project. This Draft TEIR addresses the potential physical and environmental effects of the Proposed Project per the requirements of the Procedures.

- The NAHC provides recommendations for cultural resources assessments.

  *As described in detail in **Section 3.1**, no probable off-reservation impacts to cultural resources would occur as a result of the Proposed Project. Therefore, cultural resources are not discussed further in this TEIR.*

1.3.2 DRAFT TEIR (SECTION 11.1 OF THE PROCEDURES)

This document is the Draft TEIR for the Proposed Project. It contains a description of the Proposed Project, a description of the environment, discussions of potential off-reservation environmental impacts, discussions of recommended measures to be implemented to mitigate identified and anticipated potentially significant off-reservation environmental impacts, discussions of any unavoidable or irreversible potentially significant off-reservation environmental impacts, and an analysis of alternatives to the Proposed Project as required by the Procedures.

1.3.3 PUBLIC REVIEW OF THE DRAFT TEIR (SECTION 11.3 OF THE PROCEDURES)

This TEIR is being submitted to the State Clearinghouse, the State Gaming Agency, the California Department of Justice, the Office of the Attorney General, and the County, as well as being distributed to local, State, and federal agencies and to interested persons and entities who previously requested in writing the opportunity to review and comment on this TEIR. A Notice of Completion of this Draft TEIR is being made available to the public in the manner required by the Procedures. A copy of this Draft TEIR is available online at *www.enterpriseteir.com*. Submission of this TEIR to the above-listed parties marks the beginning of a 45-day public review and comment period, during which period the Tribe will accept written comments regarding this TEIR at the following address:

Enterprise Rancheria
c/o Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95811
admin@enterpriseteir.com

1.3.4 FINAL TEIR (SECTION 11.4 OF THE PROCEDURES)

Timely written comments on this Draft TEIR will be carefully reviewed by the preparer of the TEIR and will be addressed in a final TEIR for the Proposed Project (Final TEIR). The Final TEIR will include the comment letters received, responses to comments, and any resulting clarifications or revisions to this TEIR as are warranted to respond to the comments received by the Tribe. Upon completion, the Final TEIR will be presented to the Tribe's Tribal Council, which will then consider approval and certification of the Final TEIR as required by the Procedures. If the Final TEIR is certified, the Tribe will make the certified Final TEIR available to the County, the State Clearinghouse, the State Gaming Agency, the California Department of Justice, and the Office of the Attorney General, as required by the Procedures. A copy of the Final TEIR will be made available online at *www.enterpriseteir.com* when the Final TEIR is completed.

1.3.5 INTERGOVERNMENTAL AGREEMENT (SECTION 11.7 OF PROCEDURES)

Prior to issuance of the Final TEIR, the Procedures require that the Tribe offer to commence negotiations with the County for an Intergovernmental Agreement (IGA) between the Tribe and the County covering the matters described in Section 11.7 of the Procedures. The Tribe anticipates that the County will accept the Tribe's offer to negotiate, and that negotiations for such an IGA will occur. One of the subjects to be covered in the IGA negotiations described in Section 11.7 of the Procedures is the timely mitigation of potentially significant impacts on the off-reservation environment that are attributable to the Proposed Project as identified in the Final TEIR. The IGA negotiations must also cover other subjects listed in the Procedures that are not covered by this Draft TEIR and will not be covered by the Final TEIR. If the Tribe and the County have not agreed on the terms and conditions of an IGA within 55 days after the date on which the Final TEIR is provided to the County, then either the Tribe or the County may demand that the terms and conditions of such IGA be determined by arbitration pursuant to the arbitration process described in Section 13.2 of the Procedures.

1.4 DRAFT TEIR ORGANIZATION

This TEIR is organized into eight chapters as described below.

- **Executive Summary.** This summary includes a brief description of the Proposed Project and No Action Alternative and a table of potential off-reservation environmental impacts and associated recommended mitigation measures.
- **Section 1.0 – Introduction.** This section describes the purpose and organization of this TEIR and the TEIR preparation, review, and certification process. It also includes a list of acronyms and defined terms that are used in this TEIR.
- **Section 2.0 – Project Description.** This section describes the Proposed Project and outlines the objectives of the Proposed Project. Components of the Proposed Project are described, including design features to reduce anticipated potentially significant off-reservation environmental impacts.
- **Section 3.0 – Environmental Analysis.** For each environmental resource area listed in the Checklist (**Appendix A**), this section describes the applicable regulatory setting for the Proposed Project and the existing off-reservation environmental setting; discusses the potentially significant off-reservation environmental impacts attributable to the construction and operation of the Proposed Project, including direct, growth-inducing, and cumulative off-reservation impacts; and recommends mitigation measures for those impacts.
- **Section 4.0 – Alternatives.** In accordance with the Procedures, this section "include(s) sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison". This section discusses the potentially significant off-reservation environmental impacts associated with the No Action Alternative, including direct, growth-inducing, and cumulative off-reservation impacts, and recommends mitigation measures for those impacts. A discussion of other alternatives considered but eliminated and a comparison of the merits of the Proposed Project and the No Action Alternative are also included in this section.
- **Section 5.0 –Report Authors.** This section provides the names of the authors who participated in, and agencies or individuals consulted during, preparation of this TEIR.
- **Section 6.0 – Bibliography.** This section provides a list of reference materials.
- **Appendices.** The appendices to this TEIR consist of the following:
    - **Appendix A – Off-Reservation Environmental Impact Analysis Checklist**
    - **Appendix B – Notice of Preparation**

- **Appendix C – Notice of Preparation Comment Letters**
- **Appendix D – Traffic Memorandum**
- **Appendix E –WWTP Engineering Report**
- **Appendix F – CalEEMod Output Files**
- **Appendix G – Special-Status Species Lists**
- **Appendix H – EDR Radius Map Report**
- **Appendix I – Environmental Noise Assessment**

1.5 ACRONYMS AND DEFINED TERMS USED IN THIS TEIR

The acronyms and defined terms that are used throughout this TEIR and their definitions are located in **Table 1-1**.

TABLE 1-1. ACRONYMS AND DEFINITIONS

Acronym	Definition
AB	Assembly Bill
AE	Exclusive Agricultural District
amsl	above mean sea level
APCD	Air Pollution Control District
AQMD	Air Quality Management District
AWSC	all-way stop controlled
biosolids	solids generated from the wastewater treament process
BMP	Best Management Practice
BO	Biological Opinion
BOH	back of house space
Btu	British thermal unit
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CalFIRE	California Department of Forestry and Fire Protection
CalRecycle	California Department of Resources Recycling and Recovery
CALSTAR	California Shock Trauma Air Rescue
Caltrans	California Department of Transportation
CAP	criteria air pollutant
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code

Acronym	Definition
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERS	California Environmental Reporting System
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH_4	methane
Checklist	Environmental Impact Analysis Checklist in the Tribal-State Compact
CHP	California Highway Patrol
CIWQS	California Integrated Water Quality System
CNDDB	California Native Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO Protocol	Transportation Project-Level CO Protocol
CO_2e	carbon dioxide equivalent
County	Yuba County
CPR	cardiopulmonary resuscitation
CRLF	California red-legged frog
CUPA	Certified United Program Agency
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
dbh	diameters at breast height
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
EC	Employment Center District
ECHO	Enforcement & Compliance History Online
EIS	Environmental Impact Statement
EMT	Emergency Medical Technician
EO	Executive Order

Acronym	Definition
ESU	Evolutionary Significant Unit
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FINDS	Facility Index System/Facility Registry System
FIRM	Flood Insurance Rate Map
FRAQMD	Feather River Air Quality Management District
FTA	Federal Transit Administration
Gas Station Project	on-site mini-mart and gas station project
General Plan	County of Yuba 2030 Countywide General Plan
GHG	greenhouse gas
gpd	gallons per day
HCP	Habitat Conservation Plan
HMBP	Hazardous Materials Business Plan
HUD	U.S. Department of Housing and Urban Development
HVAC	heating, ventilation, and air conditioning
HWCA	Hazardous Waste Control Act
Hz	hertz
IC	Industrial Commercial District
IGA	Intergovernmental Agreement
ILS	influent lift station and screening
IRWMP	Integrated Regional Water Management Plan
kVA	kilovolt-ampere
lb	pounds per day
LCFS	low carbon fuels standard
Ldn	interior average day night noise level
Leq	equivalent noise level
LOS	level of service
MBR	membrane bioreactor
MCL	maximum contaminant level
mg/L	milligrams per liter
ml	milliliter
MMI	Modified Mercalli Intensity
MRZ	Mineral Resource Zone
MT	metric ton
MUN	waters designated for domestic and municipal supply

Acronym	Definition
MW	megawatt
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NB	northbound
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resource Conservation Service
NSVAB	Northern Sacramento Valley Air Basin
NWI	National Wetlands Inventory
OSHA	Occupational Safety and Health Administration
Pb	lead
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM_{10}	particulate matter of size less than 10 microns
$PM_{2.5}$	particulate matter of size less than 2.5 microns
PPV	peak particle velocity
Procedures	Secretarial Procedures for the Tribe
Project Site	3317 Forty Mile Rd, Wheatland, CA 95692
Proposed Project	Fire Mountain Casino Music Venue Project
RCRA	Resource Conservation and Recovery Act
REACH	Redwood Empire Air Care Helicopter
recycled water	recycling of tertiary-treated wastewater
Resort	Hard Rock Hotel and Casino Sacramento at Fire Mountain
RIA	Reduced Intensity Alternative
ROG	reactive organic gas
RORL	Recology Ostrom Road Landfill
RWD	report of waste discharge
RWQCB	Regional Water Quality Control Board
SB	southbound
SCS	Sustainable Communities Strategy
SE	Sports Entertainment District

Acronym	Definition
sf	Square feet
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act
SO_2	sulfur dioxide
SOP	standard operating procedure
SR	State Route
SSV EMS Agency	Sierra-Sacramento Valley Emergency Medical Services Agency
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TEIR	Tribal Environmental Impact Report
TMDL	total maximum daily load
Tribe	Estom Yumeka Maidu Tribe of the Enterprise Rancheria
TSCA	Toxic Substances Control Act
USACE	U.S. Army Corp of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	vehicle miles traveled
WDR	Waste Discharge Requirement
WWTP	wastewater treatment plant
YWA	Yuba Water Agency
2010 FEIS	Final EIS for the Enterprise Rancheria Gaming Facility and Hotel Fee-to-Trust Acquisition (AES, 2009)

SECTION 2.0

PROJECT DESCRIPTION

SECTION 2.0

PROJECT DESCRIPTION

2.1 OVERVIEW AND BACKGROUND

The Estom Yumeka Maidu Tribe of the Enterprise Rancheria (Tribe), a federally recognized sovereign Indian tribe, proposes to expand its Hard Rock Hotel and Casino Sacramento at Fire Mountain (Resort), located between Marysville/Olivehurst and Wheatland in unincorporated Yuba County, California, by constructing the Proposed Project described below. **Figure 1-1** shows the Proposed Project's regional location and **Figure 1-2** provides an aerial view of the Project Site on which the Resort has been built and which would be the site of the Proposed Project.

The Resort opened in October of 2019 and was the subject of an exhaustive Environmental Impact Statement (EIS). The Final EIS for the Enterprise Rancheria Gaming Facility and Hotel Fee-to-Trust Acquisition was prepared in May of 2009 and the Bureau of Indian Affairs published the Final EIS in August of 2010. The Bureau of Indian Affairs issued its first record of decisions based on the EIS in 2011 and later issued a second record of decision in 2012. This document is referred to herein as the "2010 FEIS" (AES, 2009). The Resort currently includes approximately 1,600 gaming devices, table games, five dining locations, a 170-room hotel, other entertainment amenities, and associated parking.

Parking areas were added to lands to the north and east of the Project Site that were leased by the Tribe before the existing Resort was opened and are still in use today to support the Resort (**Figure 1-2**). The County deemed parking to support the Resort as a compatible land use with the Sports and Entertainment Zone which is designated to the parcels south of Forty Mile Rd and is described in more detail in **Section 3.8**, **Land Use and Population and Housing**. This zoning designation was in place before the Project Site was taken into Trust for the Tribe by the federal government.

The Proposed Project includes the construction of an indoor live music amphitheater consisting of up to approximately 75,000 square feet (sf), and the expansion of the Resort's back of house space (BOH) by up to approximately 20,000 sf, for a total of up to approximately 95,000 sf of new building space at the northeast (back) side of the existing Resort building. The proposed live music amphitheater (live music venue) will be used for entertainment on a regular basis and not just for special events. The new BOH area would be used for expanded offices, warehouse facilities, and to house the Tribal Gaming Agency offices which are currently located in a modular unit on the Project Site. The Proposed Project would be built on existing paved areas. The components of the Proposed Project are described in more detail in **Section 2.4**. A site plan and an architectural rendering of the Proposed Project are provided as **Figure 2-1** and **Figure 2-2**, respectively.

2.2 PROJECT OBJECTIVES

The Proposed Project has been designed to meet the following objectives:

- Provide additional amenities related to entertainment that are in demand from existing patrons and that are not currently available in the area.

- Offer new amenities that would enable the facility to remain competitive as a premier casino/resort in northern California.
- Continue to provide a sustainable, long-term economic base for the Tribal Government, including the Tribal Gaming Agency.
- The expansion of the BOH area would support both existing needs and additional anticipated needs.
- Additional BOH space would be developed to provide relief from significant existing space constraints and layout issues and to improve operational efficiency by replacing modular units which are currently in use on the Project Site.

2.3 EXISTING HARD ROCK CASINO AND HOTEL

The Proposed Project would be situated on the Trust Land on which the current Resort is located. The Resort is located in the southern area of Yuba County, southeast of Marysville/Olivehurst at 3317 Forty Mile Rd, Wheatland, CA 95692. Hereafter, for the purposes of this Draft Tribal Environmental Impact Report (TEIR), the Resort is defined as the area that incorporates the existing gaming, dining, hotel, and spa facilities, associated parking areas, and landscaped and open spaces. The definition of the Resort does not include additional existing facilities such as the on-site water treatment facility, water tanks, or wastewater treatment plant (WWTP) which are located entirely on the Project Site. Regional access to the Project Site is provided by California State Route 65 and California State Route 70, which connect Interstate 5, CA State Route 99, and Interstate 80 to the vicinity. The Project Site is accessible via existing driveways on Forty Mile Rd. The Project Site is primarily surrounded by agricultural land, except for the Toyota Amphitheater which is located approximately 1 mile south of the Project Site on Forty Mile Rd and is also within the Sports and Entertainment Zone designated by Yuba County (County).

The main Resort building consists of approximately 305,605 sf, which includes up to 1,600 gaming devices, table games, five dining locations, a 170-room hotel, other entertainment amenities, and associated parking. Additional facilities are also located on the Project Site, including an on-site water treatment facility and a wastewater treatment plant, all of which are owned and operated by the Tribe. A separate project, anticipated to be operational prior to opening day of the Proposed Project, includes on on-site mini-mart and gas station[1]; this separate project will be referred to herein as the "Gas Station Project." The Resort currently employs approximately 1,106 employees and is managed by Hard Rock Entertainment for the Tribe.

The Resort currently coordinates and supports CHP, Yuba County Sheriff officers, and the Toyota Amphitheater in the implementation of the amphitheater's traffic management plan during events, including providing Resort personnel to manually control traffic on Forty Mile Rd at the Resort entrances to facilitate ingress and egress of Resort visitors. Additionally, the Tribe currently contributes towards the amphitheater's payments for additional CHP and Yuba County Sheriff services during events.

2.4 DESCRIPTION OF THE PROPOSED PROJECT

The Proposed Project includes the construction of an indoor live music amphitheater and the expansion of the Resort's BOH, all of which would be located on trust land. The building site for the Proposed Project is located in the northeast paved parking lot of the existing Resort, immediately west of the existing on-site water and wastewater treatment plant. Under the Proposed Project, all excavation, fill,

[1] The separate Gas Station Project does not qualify as a "Project" as defined by the Procedures and therefore the preparation of a TEIR is not warranted for that project.

construction staging, and construction parking would be on trust land or the existing parking areas located on the surrounding land leased by the Tribe.

The Resort is operated pursuant to the Secretarial Procedures for the Tribe (Procedures), which requires the Tribe to adopt a tribal building ordinance that meets or exceeds the requirements of the California Building Code (CBC) and includes all fire, plumbing, electrical, mechanical, and related codes in effect at the time of construction. The Tribe has adopted such an ordinance, and it remains in effect. The Proposed Project would be constructed under the existing tribal building ordinance and would comply with building standards and requirements that meet or exceed the standards and requirements set forth in the CBC.

The design of the Proposed Project would comply with the Americans with Disabilities Act. The Proposed Project would also comply with the following regulations and standards:

- The Tribe's Tribal Gaming Agency would ensure that the Proposed Project meets all applicable construction codes, and would issue a certificate of occupancy for the Proposed Project prior to occupancy;
- The Tribe would maintain food and beverage handling standards for the Proposed Project that are no less stringent than state public health standards for food and beverage handling, consistent with existing operations at the Resort;
- The Tribe would maintain workplace and occupational health and safety standards for the Proposed Project that are no less stringent than federal workplace and occupational health and safety standards, consistent with existing operations at the Resort;
- The Tribe would, during operation of the Proposed Project, comply with tribal codes and applicable federal law regarding public health and safety; and
- The Tribe would, during operation of the Proposed Project, make reasonable provisions for emergency, fire, medical, and related relief and disaster services for the additional patrons and employees, and these provisions would be integrated into the existing Resort operations.

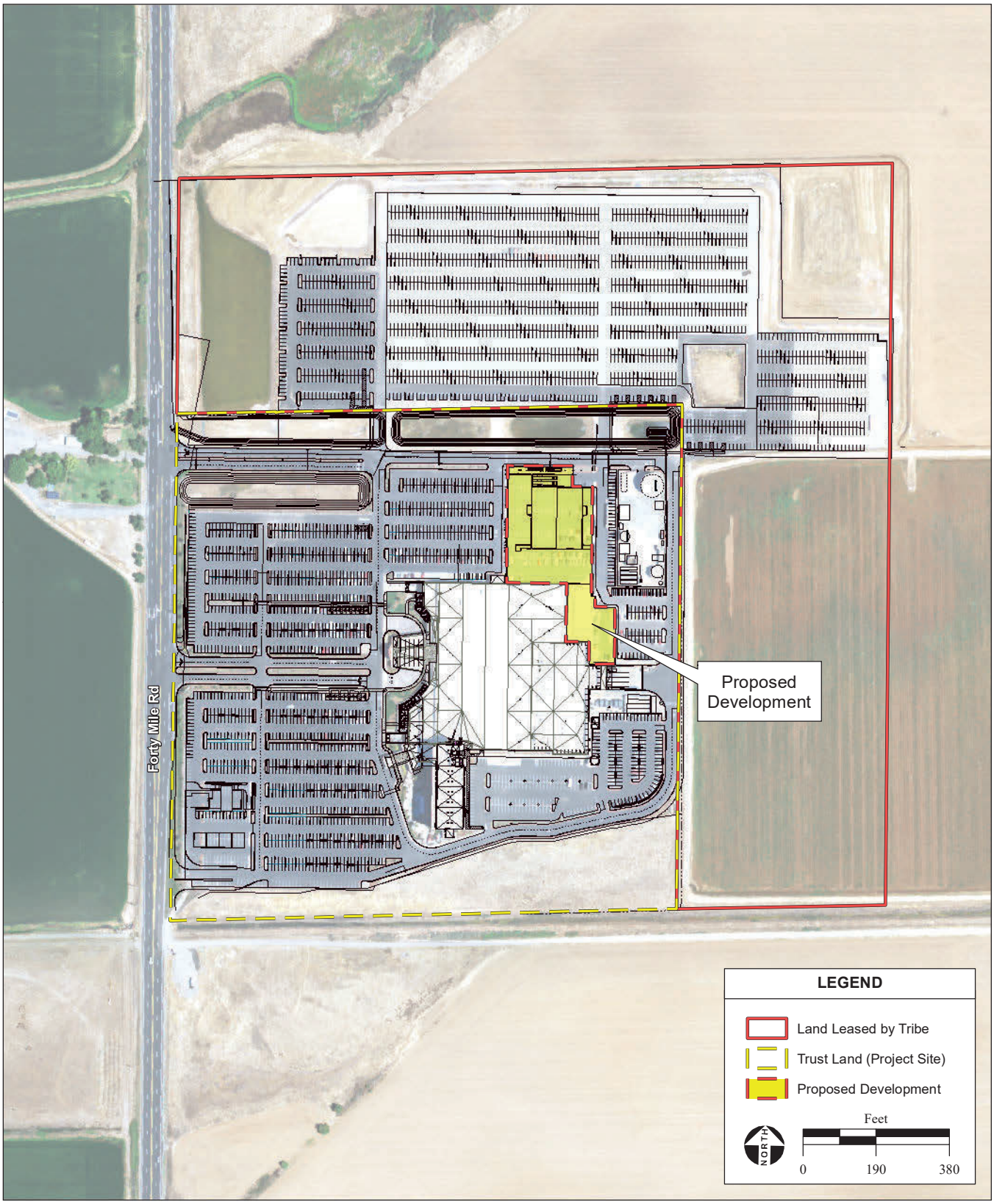
2.4.1 RESORT EXPANSION

The Proposed Project includes the construction of an indoor live music venue consisting of up to approximately 75,000 sf. The proposed live music venue will include up to 3,000 attendee seats and will be used for entertainment on a regular basis and not just for special events.

Currently, existing Resort BOH spaces for employee office space, storage, and other administrative support facilities are inadequate and do not allow for efficient operation including the Tribal Gaming Agency which is currently housed in a modular unit on the Project Site. To address these spatial constraints as well as the needs of the Proposed Project, the project includes approximately 20,000 sf of additional back-of-house space. The new BOH area would be used for expanded offices and warehouse facilities.

2.4.2 PARKING

During construction activities, a portion of the south parking lot would be used for construction staging and construction vehicle parking. A construction staging may also occur in the existing parking lots located in the adjacent land leased by the Tribe, but no other off-site parking or staging would be allowed during construction.



SOURCE: Friedmutter Group, 1/25/2021; NAIP aerial photograph, 7/10/2020; Yuba County GIS, 2020; AES, 2/24/2021

Figure 2-1
Site Plan



SOURCE: AES, 3/02/2021

Figure 2-2
Architectural Rendering

As described in **Section 1.2**, the Resort currently has a total of 4,153 total parking spaces located on the Project Site and on the adjacent land leased by the Tribe. The parking areas currently at the Resort have been designed to accommodate the peak parking demand for special events; therefore, even at peak Resort capacity, approximately 700 parking spaces are unused on the Project Site. The separate Gas Station Project would eliminate approximately 160 parking spaces from the Project Site.

Development of the Proposed Project would permanently eliminate 233 parking spaces in the northeast parking area. The elimination of 233 parking spaces from the Project Site, in addition to the anticipated elimination of approximately 160 parking spaces from the separate Gas Station Project, would result in a total of 3,760 parking spaces under the Proposed Project. As described in **Section 3.11.3**, the Proposed Project is estimated to result in an additional 96 new peak hour trips requiring parking spaces. Considering anticipated patron data, even at peak Resort capacity, approximately 211 parking spaces would be left unused at the Project Site under the Proposed Project.

As part of the Proposed Project, the following strategies would be applied to manage available parking during peak demand periods and ensure adequate services are provided to patrons:

- **Overflow Parking –** There are multiple opportunities for off-site overflow parking located in the vicinity of the Project Site:
    - Adjacent land leased by the Tribe today provides up to 1,900 overflow parking spaces;
    - A three-acre laydown lot east of the Project Site also provides up to 200 overflow parking spaces;
    - The Tribe has contracted with the nearby Toyota Amphitheater to provide overflow parking as needed; and
    - The Tribe would contract with neighboring agricultural properties on an as-needed basis to provide overflow parking or utilize the existing parking areas on the land leased by the Tribe should the need should arise.
- **Shuttle** – Shuttle services would be provided between the Project Site and any off-site parking areas.

2.4.3 GRADING AND DRAINAGE

Existing stormwater design features on the Project Site include detention basins and inundation mitigation basin areas along the northern edge of the property. Stormwater from the impermeable areas of the Project Site are routed to the detention basins through sub-surface drainage for sedimentation control and groundwater recharge. A series of inlets, drains, and outfalls assist in directing stormwater to the basins. The detention basin acts as a slow-release basin to the inundation mitigation basins both on the Project Site and the surrounding land leased by the Tribe (**Figure 1-2**).

Construction of the Proposed Project would occur on existing paved areas. No modifications to the existing drainage system are required for the Proposed Project. Post-project runoff rates and volumes would be nearly identical to current runoff conditions. The existing drainage facilities shall continue to be routinely cleaned and repaired, when necessary, as part of the Resort's normal operation and maintenance program.

Grading activities during the construction of the Proposed Project would consist primarily of excavation of approximately 2,400 cubic yards of soil and a subsequent 3,900 cubic yards of fill and compaction, resulting in a net total of 1,400 cubic yards of fill associated with the Proposed Project. Soil needed for

the construction of the Proposed Project would be transported by truck to the Project Site primarily from the adjacent land leased by the Tribe or, if needed, another off-site location. The additional soil will primarily be used for compaction under the Proposed Project. All grading would be minor because the Project Site is already level.

2.4.4 WATER SUPPLY

Existing Water Supply and Infrastructure for the Resort

The current average water demand for the Resort and auxiliary support facilities is approximately 122,000 gallons per day (gpd). The current potable water demand for the Resort is met by using potable water from the existing groundwater well located on the Project Site. The Resort's potable groundwater supply system consists of one well owned by the Tribe. The groundwater well has the pumping capacity of approximately 456,000 gpd, which is sufficient to serve the Resort's current demand (122,000 gpd). These details are further described in **Section 3.7**, **Hydrology and Water Quality**.

Groundwater drawn from the Tribe's well currently meets U.S. Environmental Protection Service drinking water standards and is approved for use within the Resort without additional treatment. The groundwater is stored within a 450,000-gallon water storage tank located on trust land northeast of the Resort building. The storage capacity water storage tank provides sufficient water for fire protection at the Resort facilities, as well as equalization of the differences between average-day and peak-day water demands (holidays or special events).

The water demand generated by the Resort is reduced through the recycling of tertiary-treated wastewater (recycled water) from the Tribe's existing WWTP, located east of the Resort on trust land (**Figure 2-1**). Recycled water from the WWTP is currently recirculated for use in toilet flushing and on-site irrigation, thereby reducing the need to rely on potable water for those uses.

Planned Water Supply and Infrastructure

Water supply for the Proposed Project would be provided by the Tribe's existing well. As noted above, the capacity of the well is approximately 456,000 gpd and is augmented by the large existing water storage tank. Implementation of the Proposed Project would increase total average water demand by approximately 14,125 gpd, for a total water demand for the Resort of 136,125 gpd. Demand of water used for toilet flushing in restrooms and related landscaping is already more than met by the volume of water recycled and reused, and these practices would help to ensure that the increase in water demand would be met by the existing well and storage systems in place today and thus not result in a requirement for additional potable water infrastructure under the Proposed Project. Therefore, with the Proposed Project, the Resort and ancillary support facilities total average potable water demand would equal approximately 136,125 gpd, with a maximum estimated demand of 162,125 gpd. The existing capacities of the well, taking into consideration the existing water storage capacities, is more than adequate to meet the increased potable water demands of the Proposed Project. The projected net peak day water demand of the Proposed Project would not exceed the current production capacity of the on-site well and storage system. No further infrastructure will be needed to meet the additional demand of the Proposed Project.

2.4.5 WASTEWATER TREATMENT AND DISPOSAL

Existing Wastewater Facilities

The Resort and auxiliary support facilities generate an average of approximately 68,030 gpd of wastewater. All wastewater generated by these sources is collected at an influent lift station and screening (ILS) facility located on trust land near the south entrance to the Resort and conveyed to the WWTP east of the Resort.

The WWTP consists of an initial screening of bulk materials and then microfiltration through an existing membrane bioreactor (MBR) system. The MBR currently includes two process trains that are designed to provide reduction of waste contaminants using microfiltration and biological processes such as biological oxidation, nitrification, denitrification, and solids removal. This WWTP has been in operation since 2019 and has met all regulatory requirements. The WWTP is sized to accommodate for an average daily influent load of 141,000 gpd of wastewater with a maximum capacity of 175,000 gpd.

The WWTP includes a 125,000-gallon effluent storage tank located near the headworks of the WWTP, and a 30-million-gallon detention basin located off reservation that receives overflow recycled water not immediately used at the Resort. Solids generated from the WWTP process (biosolids) are dewatered with a sludge screw press and then sent to a permitted landfill.

Treated wastewater from the WWTP is currently reused for toilet flushing in casino restrooms and landscape irrigation at the Resort, remaining wastewater is piped to an off reservation agricultural detention basin and used for agricultural irrigation. Sodium hypochlorite is used as a disinfectant prior to use of recycled water. A 125,000-gallon storage tank is located at the WWTP for distribution of recycled water at the Resort.

Proposed Wastewater and Recycled Water Facilities

Implementation of the Proposed Project would result in an increase of approximately 14,125 gpd of wastewater generation. The Resort's existing wastewater collection system and WWTP are adequate to meet the needs of the Proposed Project.

As described in **Appendix E**, adequate storage and disposal capacity is available for the Proposed Project, assuming continued distribution to the agricultural holding pond and toilet/urinal flushing and on-site irrigation. Therefore, the existing disposal and storage facilities would require no expansion. Recycled water is further discussed in **Section 3.7**, **Hydrology and Water Quality**.

2.4.6 POWER SUPPLY

Current Power Usage

The current peak electricity usage at the Resort and auxiliary support and commercial facilities is approximately 3 megawatts (MW). Electricity is provided to the Resort and auxiliary support and commercial facilities primarily by Pacific Gas and Electric Company (PG&E) through power lines along Forty Mile Rd.

On-Site Power Generation

An existing standby generator facility provides a centralized system for backup energy supply, providing power to all Resort and auxiliary support and commercial facilities. The standby generator facility

contains seven generators (for a total generation capacity of 5.6 MW). Diesel is used by the generators when in operation. The diesel fuel is stored on-site; all fuel storage tanks and an oil storage area are dual-walled for spill containment.

Thermal Storage

The Resort utilizes heating, ventilation, and air conditioning (HVAC) for internal temperature regulation. The Resort currently utilizes 11,709 tons (approximately 140.5 million British thermal unit [Btu]/hour), and the Proposed Project would increase the HVAC usage by approximately 380 tons (4.6 million Btu/hour).

Proposed Project Power Usage and Generation

The Proposed Project would be designed to meet or exceed the standards of Title 24 of the California Code of Regulations, which sets minimum efficiency requirements for building construction materials and energy-consuming equipment in California. Under baseline conditions, the Proposed Project would increase peak electrical energy demand for the Resort and auxiliary support and commercial facilities from 3 MW to 4.4 MW (an approximately 1.4-MW increase).

The existing 5.6 MW standby generator facility is sufficiently sized to serve the Proposed Project in addition to the Resort; therefore, no improvements to this facility is proposed as part of the Proposed Project.

2.4.7 LIGHTING

The proposed expansion of the Resort onto the northeastern parking lot would result in the removal of approximately six existing light poles, but would include the addition of nine new building-mounted wall fixtures to illuminate exterior drive and pedestrian areas. The total amount of outdoor lighting at the Project Site would be maintained. External lighting at the expanded Resort would be consistent with applicable requirements including Title 24 Outdoor Lighting Zones, and would be similar to existing lighting fixtures on the outside of the Resort structures.

2.4.8 ACCESS

The existing ingress and egress points for the Resort would be maintained under the Proposed Project. The separate Gas Station Project is constructing a third driveway located at the southern boundary of the Project Site, along Forty Mile Rd, and this driveway is anticipated to be in operation prior to construction of the Proposed Project.

2.4.9 BUILDING DESIGN AND LANDSCAPING

The exterior design of the Proposed Project would be visually compatible with the existing Resort facilities, as illustrated in **Figure 2-2**. Building materials and colors of the Proposed Project would be chosen to match the aesthetics of the existing Resort facilities and would continue to complement the surrounding area.

2.5 PROJECT CONSTRUCTION

Construction of the Proposed Project would last approximately one year and would involve earthwork, placement of concrete foundations, steel and wood structural framing, electrical and mechanical work,

building finishing, and paving. All construction activities would occur on areas that are currently paved surfaces. A complete list of anticipated construction equipment is available in **Appendix F**. All staging areas for construction would be located on the Project Site or on the adjacent land leased by the Tribe (**Figure 1-2**). Construction of the Proposed Project would require a maximum of 425 construction workers onsite at a time, depending on the phase of construction.

After detailed construction plans and specifications are prepared for the Proposed Project and any necessary permits and approvals have been obtained, a contractor hired by the Tribe would begin construction. All contractual obligations associated with mitigation measures described in **Section 3.0**, **Environmental Analysis**, would be incorporated into executed contracts prior to the start of construction. Key construction activities would include the following:

- Site preparation – asphalt removal;
- Earthwork – grading, excavation, backfill, and earth retention;
- Concrete – forming, rebar placement, and concrete delivery and placement;
- Structural steel work – assembly and welding;
- Non-structural framing (wood or steel);
- Masonry construction;
- Installation of mechanical equipment and piping;
- Landscape and hardscape installation; and
- Interior finishing.

2.6 PROJECT OPERATION

The Proposed Project would generate approximately 45 new jobs, for a total of approximately 1,151 Resort employees. The Resort, as expanded by the Proposed Project, would continue to be managed by the Tribe and its team of highly qualified professionals and to operate 24 hours per day, 7 days per week.

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- Structural steel work – assembly and welding;
- Non-structural framing (wood or steel);
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SECTION 3.0

ENVIRONMENTAL ANALYSIS

SECTION 3.0

ENVIRONMENTAL ANALYSIS

3.1 INTRODUCTION TO THE ENVIRONMENTAL ANALYSIS

Section 3.0, Environmental Analysis, of this Draft Tribal Environmental Impact Report (TEIR) describes the existing off-reservation environment, potential off-reservation environmental impacts attributable to the Proposed Project, and, where warranted, mitigation to reduce these impacts. This section is divided into 11 resource subsections, each of which provides an integrated presentation of appropriate regulatory setting, off-reservation environmental setting, off-reservation environmental impacts and their significance, and recommended mitigation measures. The topics addressed in this section include:

- Aesthetics;
- Air Quality and Greenhouse Gases;
- Biological Resources;
- Geology and Soils;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use, Agricultural Resources, Population and Housing, and Recreation and Parks;
- Noise;
- Public Services and Utilities and Service Systems;
- Transportation/Traffic; and
- Growth-Inducing and Cumulative Off-Reservation Environmental Impacts.

These topics were identified for analysis on the basis of the Secretarial Procedures for the Tribe (Procedures) Environmental Impact Analysis Checklist (Checklist), which is provided as **Appendix A** of this Draft TEIR, as well as comments received during the scoping process. Pursuant to the Procedures, the Checklist was used to determine the potential for impacts to various off-reservation environmental resources.

No probable off-reservation impacts would occur for multiple resources included in the Checklist. Therefore, the following resources are not described further in this TEIR:

- Agricultural and Forest Resources
    - Agricultural resources include off-reservation areas used to produce, grow, and harvest crops and farmed products. The Proposed Project will be constructed on an area that has been previously paved and developed. No probable off-reservation impacts to agricultural resources would occur.
- Cultural Resources[1]
    - Because construction activity for the Proposed Project would be confined to the Project Site (i.e., no off-reservation ground disturbance would occur) and there are no known cultural resources in the vicinity of the Project Site (AES, 2009), no impacts to off-reservation cultural resources would occur.

[1] Cultural Resources was not identified for analysis in this TEIR for the reasons stated above. However, **Section 3.12** discusses the indirect environmental impacts resulting from implementation of the mitigation measures identified in this TEIR, including indirect impacts to cultural resources.

- Mineral Resources
    - Mineral resources are defined as the concentration or occurrence of natural, solid, inorganic or fossilized organic material of such grade or quality that it has reasonable prospects for economic extraction. The Proposed Project would be constructed entirely on Trust Land, and would not result in the loss of availability of any off-reservation mineral resources. Accordingly, the Proposed Project is unlikely to impact off-reservation mineral resources.
- Recreation
    - Recreation areas include public parks and other public facilities. The Proposed Project will be built on-reservation in an area previously paved and developed. Therefore, the Proposed Project would not impact off-reservation recreation areas.

3.1.1 SIGNIFICANCE CRITERIA

Potentially significant off-reservation impacts of the Proposed Project, which are changes to the off-reservation environmental setting that are attributable to the Proposed Project, are identified for each off-reservation environmental resource area, along with a description of the methodology used in the analysis. According to Section 2.26 of the Procedures, a "significant effect" would occur if any one of the following conditions exists:

- A proposed project has the potential to degrade the quality of the off-reservation environment, curtail the range of the environment, or achieve short-term, to the disadvantage of long-term, environmental goals;
- The possible effects of a Project on the off-reservation environment are individually limited but cumulatively considerable. As used herein, "cumulatively considerable" means that the incremental effects of an individual Project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects; or
- The off-reservation environmental effects of a Project would cause substantial adverse effects on human beings, either directly or indirectly.

For each off-reservation environmental resource area evaluated in this Draft TEIR, significance criteria have been adopted from the Checklist and incorporated into the off-reservation environmental analysis.

3.1.2 CUMULATIVE IMPACTS

The cumulative impact analysis in **Section 3.12, Indirect and Cumulative Off-Reservation Environmental Impacts,** is based on the cumulative developments described in **Section 3.12.3**.

3.1.3 MITIGATION MEASURES

Mitigation measures are recommended to eliminate or reduce the magnitude of potentially significant off-reservation impacts that may be experienced during construction and/or operation of the Proposed Project for the environmental resource areas listed above. In cases where no mitigation is available or required, this conclusion is noted. Unless stated otherwise, where multiple mitigation measures are listed, all are necessary to mitigate a potentially significant off-reservation environmental impact.

3.2 AESTHETICS

This section addresses the off-reservation environment associated with aesthetics, discusses potential impacts of the Proposed Project on the off-reservation visual environment, and recommends mitigation measures to reduce any potentially significant off-reservation impacts on regulated scenic resources.

3.2.1 REGULATORY SETTING

State and Local

The Project Site is located on federally owned trust lands and is not subject to state or local controls concerning aesthetic resources. However, such controls apply to off-reservation land in the vicinity of the Project Site.

State Scenic Highways

In 1963, the California State Legislature established the California Scenic Highway Program through Senate Bills 1467 and 1468, provisions of which were added to the Streets and Highways Code. The goal of the California Scenic Highway Program is to preserve and enhance the natural beauty of California, with scenic highways being designated based upon the amount of natural landscape visible to a passing motorist (Caltrans, 2021). Scenic highway designation does not preclude nearby development; however, the program encourages development that does not degrade the scenic value of the highway corridor (Caltrans, 2021).

Title 24 Outdoor Lighting Zones

The California Energy Commission has published the 2019 Building Energy Efficiency Standards for residential and non-residential buildings (Title 24, part 6). These standards took effect January 1, 2020 and include mandatory requirements for outdoor lighting such as maximum brightness and shielding. These requirements vary based on the Lighting Zone the building is located in. Lighting Zones range from Zone 0 (undeveloped open spaces) to Zone 3 (urban areas). Lighting Zone 4 exists, however this designation can only be granted when a local government applies for exceptionally high lighting allowances. Lighting Zones are intended to help limit light pollution and ensure light levels are appropriate for the region.

Yuba County 2030 General Plan

The *Yuba County 2030 General Plan* (General Plan), adopted in 2011, is the comprehensive guiding document for development and conservation in the unincorporated areas of the County, including the off-reservation properties in the vicinity of the Proposed Project. The General Plan does not apply to the trust land on which the Proposed Project would be located or to the Proposed Project itself. Policies and actions in the General Plan that are relevant to the off-reservation aesthetic resources in the vicinity of the Proposed Project are included as follows.

Community Development Element

Goal CD9 Preserve and enhance the rural character through development and conservation in Yuba County's Rural Communities and open space areas.

Policy CD9.1 Foothill and mountain development projects shall be designed to preserve the existing rural character.

Policy CD9.2 Rural development should be located and designed to preserve and provide buffer around native oak trees and other healthy and attractive native vegetation, cultural resources, biological features, mineral deposits, active agricultural operations, unique landforms, historic structures and landscapes, and other natural resources.

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Goal CD19 *Freedom of Travel Mode Choice*. Roadway design, development patterns, and circulation systems that encourage walking, bicycling, and transit use.

Policy CD19.6 New developments shall provide attractive streetscapes with street trees and sidewalks, planting strips, transit shelters, benches, and pedestrian-scale lighting, as required by County standards, as well as safe and frequent crosswalks along roadways, particularly in areas expected to have higher pedestrian traffic.

Natural Resources Element

Goal NR9 Preservation of Yuba County's important visual resources.

Policy NR9.1 New developments near the Yuba, Bear, and Feather Rivers should be designed and located in a way that retains or enhances scenic views of these important visual resources.

Policy NR9.2 New plans and projects in western Yuba County should be designed to provide view corridors to the Sutter Buttes, where practical.

Policy NR9.3 Development in Rural Communities should be designed to preserve important scenic resources, landmarks, and icons that positively contribute to the rural character.

Policy NR9.4 New buildings in areas of natural and scenic beauty should be placed and designed in a way that preserves scenic vistas available from public rights-of-way, parks, and other public viewing areas.

Policy NR9.7 New construction should be designed to avoid excessive cut and fill by following the natural contour of the subject site.

Goal NR10 *Trees and other Important Vegetation*. Preserve the County's trees and other vegetation that provide aesthetic and habitat benefits.

Policy NR10.1 Building placement, grading, and circulation should be planned to retain as much existing native vegetation as feasible, with a priority on preserving existing oak trees that have a diameter at breast height (dbh) of 6 inches or greater and all other trees that have a dbh of 30 inches or greater.

Policy NR10.2 The County will encourage the preservation of healthy, attractive native vegetation during land development. Where this is not feasible, the County will require landscaping that uses climate-appropriate plant materials.

Goal NR11 *Aesthetics of the Built Environment*. New construction is compatible with, and supportive of locally important aspects of the visual environment.

Policy NR11.1 New developments are encouraged to include architectural styles that complement local historic styles including, but not limited to gold rush, agrarian, craftsman, bungalow, American cottage, mountain or rustic styles, and other appropriate styles.

Policy NR11.2 In new development areas, service, utility, loading areas, roof-mounted equipment, and noise-generating equipment shall be screened, designed, and located to reduce visibility, odor, and noise as experienced at surrounding properties and pedestrian areas.

Policy NR11.3 New utilities constructed within the Valley Growth Boundary shall be placed underground, where feasible. New utilities in rural areas outside the Valley Growth Boundary shall avoid ridge lines and blocking expansive views from public viewing locations, where feasible.

Policy NR11.4 To the maximum extent feasible, new developments shall avoid adverse light and glare effects on adjacent roads, neighboring properties, and pedestrian areas through careful location of on-site lighting, use of non-reflective paint and building materials, screening or shielding light at the source, use of vegetation screening, use of directional lighting, use of lower intensity lighting, use of timing devices or sound/motion-controlled lighting, or other equally effective means.

Policy NR11.5 The County will review and condition nonresidential, multi-family, large single-family projects, and projects located in historically significant areas for compliance with General Plan policy and design guidelines, once guidelines are developed.

3.2.2 ENVIRONMENTAL SETTING

Visual Character of the Region

The County is predominantly rural, having an agricultural character throughout most of the southwestern portion and a foothill/mountain natural environmental character in the northeastern portion. The Proposed Project would be located within the low-lying agricultural belt portion of the County. Areas within this portion of the County have extensive scenic views of the surrounding foothills and croplands. A majority of views from the Resort are to the west, which mainly consist of a large expanse of agricultural lands and several residential buildings. Views to the east also include farmland as well as limited visuals of the distant foothills. **Figure 3.2-1** shows the locations from which the viewshed photographs of the Project Site were taken. **Figures 3.2-2a** and **3.2-2b** compare existing and future visuals of the Project Site from each respective viewshed.

There are no designated state or local scenic highways within the visually accessible vicinity of the Project Site. The nearest designated state scenic highway is SR-49 located approximately 20 miles east of the Project Site (Yuba County, 2011a). For the purposes of this analysis, a scenic vista is a view that

possesses visual and aesthetic qualities of high value to the community. Scenic vistas can provide views of natural features or significant structures and buildings. Open area visual resources, such as agricultural and natural, undeveloped lands, contribute to the scenic vistas that are present in the vicinity of the Project Site. Rolling foothills, grasslands, low-lying shrubbery, open agricultural fields, and a lack of major development in the area contribute to the local scenic value of the portion of the County surrounding SR-65 and Forty Mile Rd.

Visual Character of the Project Site

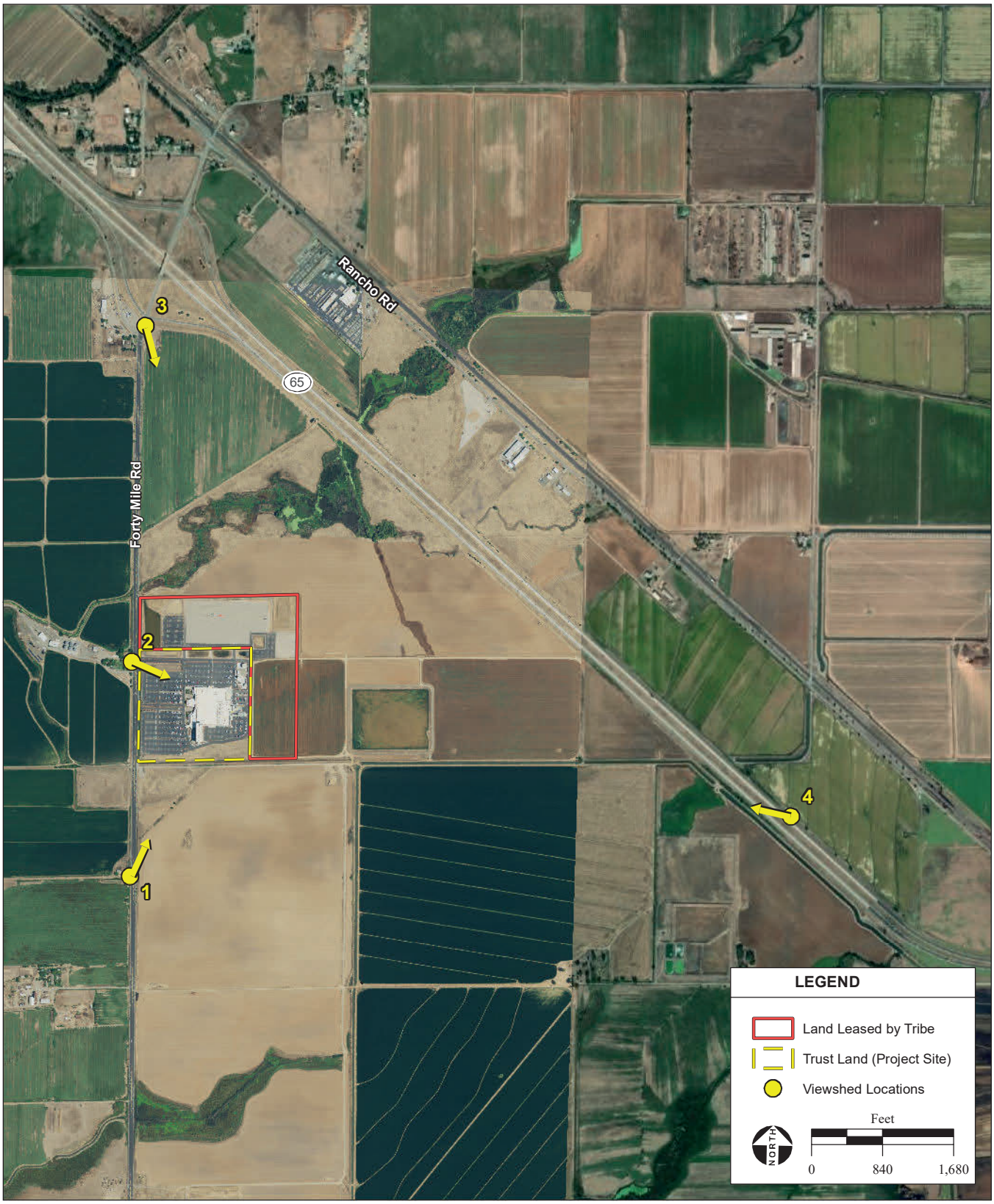
The Project Site is located in a relatively undeveloped agricultural area and consists mainly of farmland and open space. Power lines are visible along Forty Mile Rd, including the southern and northern borders of the Project Site. An unnamed dirt road borders the Project Site to the south. A residential/ranch complex that consists of multiple large barns and grain silos is present directly to the west of the Project Site across Forty Mile Rd. Additionally, Kimball Creek is located approximately 0.25 miles north of the Project Site. The creek and its vegetated riparian corridor are visible from the northern boundary of the Project Site.

The Resort is clearly visible from Forty Mile Rd in the immediate vicinity of the Project Site and from the adjacent agricultural properties to the west and north of the Project Site. The existing 8-story hotel tower is located at the southwest corner of the Resort. Prefabricated construction trailers (used as office space and training centers) are currently located northeast of the main Resort building, along with the existing fenced 36,000 sf wastewater treatment plant. Paved and unpaved surface parking lots surround the northern, western, and southern portions of the Resort. Photographs of the visual characteristics of the Project Site are shown in **Figures 3.2-2a** and **b**, including views of the existing parking lot where the Proposed Project would be located.

The Resort is a source of nighttime lighting in the area. However, external lighting consists primarily of downcast lamps and is minimized to that required for public safety and security.

Public Views from Forty Mile Rd and SR-65 (Viewsheds 1 through 4)

Views of the Project Site currently experienced from publicly accessible vantage points are limited to the views of travelers along Forty Mile Rd and SR-65. Forty Mile Rd connects with SR-65 approximately one mile north of the Project Site. Although the site can be seen from these viewsheds, views of the Proposed Project are limited due to intervening topography and existing development. Key viewsheds along Forty Mile Rd and SR-65 of the Project Site are further assessed under **Impact 3.2.1** in **Section 3.2.3** below. **Figure 3.2-1** identifies representative viewsheds of the Project Site as experienced from publicly accessible vantage points, and **Figures 3.2-2a** and **3.2-2b** provide a comparison of the photographs taken from these vantage points along with each corresponding architectural rendering. These viewsheds were selected as they are representative of the range of views along both Forty Mile Rd and SR-65, and also represent the limited viewsheds from where the Proposed Project may be observed.



SOURCE: NAIP aerial photograph, 7/10/2020 & Maxar aerial photograph, 10/19/2018; Yuba County GIS, 2020; AES, 3/2/2021

Figure 3.2-1
Viewshed Locations



Viewshed 1 (Before)



Viewshed 1 (After)



Viewshed 2 (Before)



Viewshed 2 (After)

SOURCE: AES, 3/2/2021

Figure 3.2-2a
Viewsheds



Viewshed 3 (Before)



Viewshed 3 (After)



Viewshed 4 (Before)



Viewshed 4 (After)

SOURCE: AES, 3/2/2021

Figure 3.2-2b
Viewsheds

3.2.3 IMPACT ANALYSIS

Significance Criteria

The following criteria are established by the Environmental Impact Analysis Checklist attached to the Procedures as Appendix B (Checklist) (**Appendix A**) and are used in this section to evaluate the potential off-reservation environmental impacts of the Proposed Project on off-reservation aesthetic resources. Such an impact is considered significant if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage off-reservation scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway; or
- 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.

Methodology

The evaluation of potential impacts of the Proposed Project to off-reservation aesthetics distinguishes between impacts related to construction and operation of the Proposed Project. Construction impacts would be mostly temporary while operation impacts could be permanent.

The evaluation of potential impacts on off-reservation aesthetics consisted of the following:

- Field observation;
- Photographic documentation;
- Review of site plans and renderings; and
- Analysis of regulations that apply to off-reservation aesthetic resources.

Impact 3.2.1: The Proposed Project would not affect any off-reservation scenic vista.

Construction

Construction of the Proposed Project would temporarily alter views of the Project Site from off-reservation locations. Heavy machinery and construction activities would be visible from off-reservation locations and to passing motorists on SR-65 and Forty Mile Rd. Visibility of construction activities from the off-reservation locations would be temporary in nature and would not permanently degrade existing visual characteristics. No construction would occur off reservation; construction would take place in areas that were previously disturbed and would consist primarily of structures and parking and driveway areas. Construction activities would not physically obstruct any off-reservation scenic vista. No impact on any off-reservation scenic vista would occur.

Operation

The Proposed Project would increase the square footage of the existing main Resort building through conversion of a portion of an existing surface parking area to an indoor live music venue along with back-of-house warehouse and office space in the northeastern portion of the Project Site. An architectural rendering of the Proposed Project is shown in **Figure 2-2**. The Proposed Project will be a continuation of the existing building and the height of the proposed components will not exceed the height of the existing Resort. Additionally, the Proposed Project would maintain the existing visual character of the existing Resort, such as color, architecture, and material, and would not impede views of natural scenic resources. The Proposed Project would not be visible to residences or travelers along

Forty Mile Rd south of the Project Site, which is shielded by existing development including the Resort building, existing vegetation, and the wastewater treatment plant. Furthermore, although the Proposed Project would be located close to SR-65, the music venue and back-of-house would mostly be hidden behind the existing wastewater treatment plant, and would be marginally noticeable from some off-reservation viewpoints from northbound daytime motorists along SR-65. As illustrated in **Figure 3.2-2a** and **b**, the views from the perspective of each viewpoint can be observed. Viewshed 1 (facing northeast) provides expansive views of the low-lying vegetation and the Resort. When facing southeast from the existing residence located directly across Forty Mile Rd from the casino entrance as shown from Viewshed 2, the Resort, parking area, and wastewater treatment plant can be seen. Facing south on Forty Mile Rd, from the perspective of Viewshed 3, portions of the existing Resort and wastewater treatment plant can be viewed off in the distance. Viewshed 4 (facing northwest on SR-65) provides expansive views of the low-lying vegetation and the existing Resort in the distance. Viewshed 4 can be seen from both north and south along this segment of the highway**.** In addition, travelers along SR-65 – particularly drivers – do not have constant, direct views of the existing Resort from the road. Overall, with implementation of the Proposed Project, views experienced by travelers on SR-65 and Forty Mile Rd would not change substantially. The horizontal exposure of the Resort and the duration of views of the Resort from SR-65 would continue to be short term in nature due to relatively high travel speeds of motorists, vegetative screening, and road geometry.

The operation of the Proposed Project would create a permanent lateral expansion to an existing visual component of the Resort and would not alter any designated off-reservation scenic vistas. The Proposed Project would blend with the existing Resort through the use of similar architectural styles, colors, and materials; therefore, potential impacts on off-reservation scenic vista would be less than significant.

Impact 3.2.2: The Proposed Project would not substantially damage any off-reservation scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings adjacent to a state scenic highway.

Construction

As discussed above, construction of the Proposed Project would temporarily alter views of the Project Site from SR-65 and Forty Mile Rd. Neither SR-65 nor Forty Mile Rd have been designated or made eligible by the State of California or County as a scenic highway. The nearest designated state scenic highway is SR-49 which travels in a north to south direction through Yuba County approximately 20 miles east of the Project Site, and not within eyesight of the Project Site. Construction of the Proposed Project would be contained entirely within the trust land in previously disturbed areas, and therefore, no off-reservation scenic resources would be damaged during construction activities. No off-reservation trees, outcroppings, or historical buildings would be altered or otherwise physically damaged by the construction of the Proposed Project. Therefore, there would be no impact on any off-reservation scenic resources resulting from construction of the Proposed Project.

Operation

Implementation of the Proposed Project would result in a permanent lateral expansion of existing structures and would not substantially alter any existing off-reservation scenic resources. The design of the Proposed Project would be similar to, and compatible with, the existing Resort facilities. The Proposed Project would blend with the existing Resort through the use of similar architectural styles, colors, and materials, thereby ensuring a smooth visual transition from the existing Resort facilities to

the components added by the Proposed Project (refer to **Section 2.4.12**). The Proposed Project would not adversely impact scenic resources, including Viewsheds 1 through 4 as described above. With the confinement of the Proposed Project to the trust lands and incorporation of design and color features consistent with existing Resort facilities, impacts on off-reservation scenic resources would be less than significant.

Impact 3.2.3: The Proposed Project would add additional sources of lighting and glare at the Resort, which could affect off-reservation day or nighttime views in the area.

Construction

Construction of the Proposed Project is anticipated to occur during daylight hours. If unanticipated circumstances were to require on-site activity during dusk and nighttime periods, temporary lighting sources would be used. Temporary lighting could adversely impact off-reservation sensitive receptors, including nearby residences, resulting in a potentially significant off-reservation impact on these structures. Implementation of **Mitigation Measure 3.2-1** would minimize off-reservation light and glare impacts of the Proposed Project during construction by limiting construction hours and establishing design and installation criteria for appropriate lighting. After mitigation, potential impacts due to lighting and glare from construction of the Proposed Project would be less than significant.

Operation

Because the Proposed Project would be developed within an existing parking lot that is currently lighted, a reduction of light poles would occur in the northeastern parking lot. The Proposed Project would remove six existing twin head light poles from the northeastern parking lot and would introduce nine smaller mounted wall light fixtures along the exterior of the newly constructed portion of the Resort, which would help to illuminate exterior drive and pedestrian areas. As a result of the replacement of the twin head light poles with smaller wall mounted fixtures, a net reduction in light or glare would occur compared to existing conditions. The Proposed Project would contain similar lighting features to the existing Resort. External lighting would consist of downcast lamps and would be designed for public safety and security. Operation of the Proposed Project would create a potentially significant impact on off-reservation sensitive receptors from lighting and glare from the Proposed Project. Implementation of **Mitigation Measure 3.2-1** would minimize off-reservation light and glare impacts through the installation of lighting sources designed to prevent off-site light cast. Additionally, **Mitigation Measure 3.2-1** would limit the use of exterior lighting to times appropriate to meet safety and security concerns. After mitigation, potential impacts due to lighting and glare from operation of the Proposed Project would be less than significant.

3.2.4 MITIGATION MEASURES

The following mitigation measures are recommended to mitigate specific impacts identified in this TEIR:

3.2-1 The Tribe shall ensure that the following measures are implemented (through contractual requirements if and as needed) to minimize the effects of lighting and glare from the construction and operation of the Proposed Project:

A. The Tribe shall limit construction activities for the Proposed Project to between 7:00 a.m. and 7:00 p.m. to the extent feasible and reasonable. If dusk or nighttime activities are necessary at the Project Site, lighting for those activities shall be strictly limited to the

minimum locations necessary for safety and security and shall be downcast onto the worksite to prevent lighting and glare impacts on off-reservation residential structures.

B. Permanent exterior lighting for the Proposed Project would be the same as the exterior lighting at the existing Casino Resort.

3.3 AIR QUALITY

This section addresses the off-reservation environment associated with air quality, discusses potential impacts of the Proposed Project on the off-reservation visual environment, and recommends mitigation measures to reduce any potentially significant off-reservation impacts on air quality. Also included within this section is a brief discussion of climate change. Climate change is also discussed in the cumulative analysis in **Section 3.12**, **Indirect and Cumulative Off-Reservation Environmental Impacts**.

3.3.1 REGULATORY SETTING

Federal

The Clean Air Act (CAA) was enacted in 1970 (42 U.S. Code [USC] §7401 et seq.) for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. The CAA establishes a framework for national, state, and local air pollution control efforts. Basic components of the CAA and its amendments include national ambient air quality standards (NAAQS) for criteria air pollutants (CAP), requirements for State Implementation Plans (SIP) to meet the NAAQS, motor vehicle emissions standards, stationary-source emissions standards and permits, and enforcement provisions. The U.S. Environmental Protection Agency (USEPA) is the federal agency responsible for establishing the NAAQS, overseeing state air quality programs as they relate to the CAA, approving SIPs, and setting emissions standards for mobile sources under federal jurisdiction.

National Ambient Air Quality Standards

In 1971, the USEPA, under authority of the CAA, developed primary and secondary NAAQS. The primary NAAQS were established to protect the public health with an adequate margin of safety, and the secondary standards were established to protect the public welfare from known or anticipated adverse effects (e.g., aesthetics, crops, architecture) (42 USC § 7409[b]). The USEPA designated six pollutants of primary concern as CAPs: carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide, ozone, lead (Pb), and particulate matter (PM). The NAAQS are time-averaged maximum ambient air concentrations. For various CAPs, more than one time-averaged maximum concentration has been established by the USEPA to address the typical exposures to the population from natural and anthropogenic (human-caused) sources in the environment. Concentrations above these time-averaged maximum concentrations are anticipated to cause adverse health effects to sensitive receptors (defined below). The violation criteria established by the USEPA are based upon these time-averaged maximum concentrations specific to each CAP. For example, the NAAQS for ozone must be exceeded on more than three days in three consecutive years to constitute a violation. On the other hand, if the NAAQS for CO are exceeded on more than one day in any given year, a violation has occurred. **Table 3.3-1** presents the violation criteria for the various averaging times of the NAAQS for each CAP.

The USEPA allows states the option to develop independent standards only if the standards are more stringent than the NAAQS. California has selected to designate independent ambient air quality standards. California's standards are not applicable to trust land or the Proposed Project itself.

TABLE 3.3-1. NAAQS AND ASSOCIATED VIOLATION CRITERIA

Pollutant	Symbol	Average Time	NAAQS	Violation Criteria
Ozone	O_3	8 hours	0.07 ppm	If exceeded on more than 3 days in 3 years
Carbon monoxide	CO	1 hour	35 ppm	If exceeded on more than 1 day per year
		8 hours	9.0 ppm	If exceeded on more than 1 day per year
Nitrogen dioxide	NO_2	Annual average	0.053 ppm	If exceeded
		1 hour	0.1 ppm	If exceeded on more than 1 day per year
Sulfur dioxide	SO_2	24 hours	0.14 ppm	If exceeded
Inhalable particulate matter	PM_{10}	24 hours	150 µg/m^3	If exceeded on more than 1 day per year
Fine particulate matter	$PM_{2.5}$	Annual arithmetic mean	15 µg/m^3	If exceeded
		24 hours	35 µg/m^3	If exceeded on more than 1 day per year
Lead particles	Pb	Calendar quarter	1.5 µg/m^3	If exceeded

Notes: ppm = parts per millions; µg/m^3 = micrograms per cubic meter
Source: USEPA, 2016b.

Attainment Status

To determine conformance with the NAAQS, states are responsible for providing ambient air monitoring data to the USEPA. The USEPA then determines, using the violation criteria, if the results of the monitoring data indicate compliance with the NAAQS. The USEPA classifies areas in compliance with the NAAQS as being in "attainment." Areas that do not meet the NAAQS are classified as being in "nonattainment" by the USEPA. For ozone, if the air quality within a region is determined by the USEPA to be in nonattainment, the region is further classified as a marginal, moderate, serious, severe, or extreme nonattainment area. Areas designated as marginal (the least severe nonattainment group) must implement a permit program and conduct an inventory of ozone-producing emissions. The more severe classifications also require implementation of control measures. Control measures must be implemented to reduce emissions of the two pollutants known to be precursors to ozone. These two pollutants are nitrogen oxides (NO_x) and reactive organic gases (ROG).

In accordance with the CAA, a state with nonattainment areas for CAPs within its borders must implement programs and procedures to reach attainment of the NAAQS by a specific timeline as designated by the USEPA. The compilation of these programs and procedures is the SIP. The SIP is not a single document, but a compilation of new and previously submitted plans, programs (such as monitoring, modeling, and permitting), regional rules, state regulations, and federal controls. SIPs may include control strategies, including emission standards for cars and heavy trucks, fuel regulations, and limits on emissions from consumer products.

Federal General Conformity

Title 40 Part 93 of the Code of Federal Regulations (CFR), known as the general conformity rule, was promulgated to ensure federal actions do not conflict with the provisions of an established SIP. A federal agency proposing an action that has the potential to emit CAPs in an area that is designated in nonattainment must determine the conformity of the federal action to the corresponding SIP. This general conformity determination must be completed before the action is taken.

The general conformity rule sets out a two-step process. First, potential air emissions are compared to screening levels known as "de minimis" thresholds. If potential emissions are below the *de minimis* thresholds, the proposed action is deemed consistent with the relevant SIP. If potential emissions are above *de minimis* thresholds, the agency must proceed to the second step of the conformity process — namely, a full general conformity review.

State and Local

The following state and local provisions addressing air quality apply to the off-reservation environment. State and local regulations do not apply to trust land or the Proposed Project itself.

California Clean Air Act

In 1988, the California State Legislature adopted the California Clean Air Act (CCAA), which established a statewide air pollution control program. CCAA requirements include annual emission reductions, development and use of low-emission vehicles, establishment of the California Ambient Air Quality Standards (CAAQS), and submittal of air quality attainment plans by air districts for incorporation into the California SIP. The California Air Resource Board (CARB) is the state agency responsible for coordinating both state and federal air pollution control programs in California. CARB designated CAAQS for the six federal CAPs and four additional pollutants: vinyl chloride, visibility-reducing particles, sulfates, and hydrogen sulfide.

CARB designated 15 individual air basins within the state by grouping together similar geographic or political areas (such as a county) that exhibit similar air quality conditions. The Project Site is located within the Northern Sacramento Valley Air Basin (NSVAB) (refer to **Section 3.3.2**). Air districts were established for each air basin, or similar groups of air basins, within California to implement the enforcement provisions of the CCAA and the CAA and to develop individual air quality attainment plans for incorporation into the SIP. The air districts are designated as air quality management districts (AQMD) or air pollution control districts (APCD). AQMDs are a group of counties, portions of a county, or an individual county governed by a regional air pollution control board comprised mostly of elected officials from within the region. APCDs are county agencies governed by a district air pollution control board comprised of elected county supervisors. Both AQMDs and APCDs were given the authority under the CCAA to regulate stationary, indirect, and areas sources of air pollution (CARB, 2010a). Within the 15 designated air basins, there are 14 AQMDs and 21 APCDs (CARB, 2010b). The off-reservation environment surrounding the Project Site is governed by the Feather River Air Quality Management District (FRAQMD) (refer to **Section 3.3.2**).

California SIP

California's SIP is comprised of the state's overall air quality attainment plans to meet the NAAQS as well as the individual air quality attainment plans of each AQMD and APCD. The items included in the California SIP are listed in 40 CFR Chapter I, Part 52, Subpart F §52.220. The California SIP is a

compilation of new and previously submitted plans, programs (such as monitoring, modeling, and permitting), AQMD and APCD rules, state regulations, and federal controls for each air basin and California's overall air quality. Many of the items within the California SIP rely on the same control strategies, such as emissions standards for cars and heavy trucks, fuel regulations, and limitations on emissions from consumer products. AQMDs and APCDs, along with other agencies such as the Bureau of Automotive Repair, prepare draft California SIP elements and submit them to CARB for review and approval. The CCAA identifies CARB as the lead agency for compiling items for incorporation into the California SIP and submitting the items to the USEPA for approval.

Toxic Air Contaminants

In addition to the above-listed California CAPs, toxic air contaminants (TAC) are another group of pollutants regulated under the CCAA. TACs are less pervasive in the urban atmosphere than criteria pollutants but are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are 244 chemicals listed by the state as TACs with varying degrees of toxicity. Sources of TACs include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and diesel motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases. Health effects of TACs may include cancer, birth defects, neurological damage, and death. One of the most controversial TACs is diesel particulate matter (DPM), which accounts for more the 70 percent of the health risk from TAC exposures within the state (CARB, 2010c).

Ambient air quality standards have not been set for TACs. Instead, these pollutants are typically regulated through a technology-based approach for reducing TACs. This approach requires facilities to install maximum achievable control technologies on emission sources.

Feather River Air Quality Management District

As stated above, the FRAQMD is the responsible air district for regulating off-reservation air quality in the portion of the NSVAB surrounding the Project Site. FRAQMD publishes its Significance Thresholds in the Indirect Source Review Guidelines (FRAQMD, 2010). The purpose of this document is to:

1. Provide a means to identify development projects that may have a significant adverse effect on air quality.
2. Provide mitigation measures developers can use to reduce the air quality impacts of their projects.

FRAQMD states that the intent of the Guidelines is fulfilled if the air quality impact of a conceptual project design is quickly estimated, and mitigation measures are incorporated into the project, prior to formal application submittal.

According to FRAQMD, indirect source emissions associated with the long-term Area/Operational Phase of the project is used in this evaluation to determine if a project poses a “Significant Effect.” A Construction Phase analysis is required only to determine the extent of construction phase mitigation required.

Thresholds have been established for ozone precursor emissions (NO_x and ROG) and respirable particulate matter emissions (PM_{10}). For all projects the significance threshold for NO_x and ROG is 25 pounds per day (lb/day) and for PM_{10} the threshold is 80 lb/day. If a project’s NO_x and ROG emissions

are calculated at less than the thresholds, FRAQMD does not require a further evaluation of construction emissions but still recommends Standard Mitigation Measures for cumulative air quality impacts. If the project's emissions are calculated to exceed the District's thresholds, construction emissions need to be calculated to determine the extent of construction phase mitigation required.

Yuba County 2030 General Plan

The Yuba County 2030 General Plan (General Plan), adopted in 2011, is the guiding document for development in the unincorporated areas of the County, including the off-reservation properties in the vicinity of the Proposed Project. The General Plan does not apply to the trust land on which the Proposed Project would be located or to the Proposed Project itself. Policies in the General Plan that are relevant to the off-reservation air quality condition in the vicinity of the Proposed Project are included in the following list.

Public Health and Safety Element

Goal HS-6 Use construction practices and operational strategies that minimize air pollution.

Policy HS6.1 New developments shall implement emission control measures recommended by the Feather River Air Quality Management District for construction, grading, excavation, and demolition, to the maximum extent feasible.

Community Development Element

Policy CD3.1 Commercial and industrial developments shall be located, buffered, or otherwise designed to avoid significant noise and air quality impacts.

Climate Change

Federal

Draft Council on Environmental Quality Guidance

On February 19, 2021, pursuant to Executive Order (EO) 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, the Council on Environmental Quality (CEQ) rescinded its 2019 Draft National Environmental Policy Act (NEPA) Guidance on Consideration of Greenhouse Gas Emissions and is reviewing, for revision and update, the 2016 Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews. In the interim, agencies should consider all available tools and resources in assessing greenhouse gas (GHG) emissions and climate change effects of their proposed actions, including, as appropriate and relevant, the 2016 GHG Guidance.

To assess impacts, the 2016 GHG Guidance states that federal agencies should quantify direct and indirect emissions of the project alternatives, with the level of effort being proportionate to the scale of the emissions relevant to the NEPA review. The CEQ guidance advises federal lead agencies to consider: (1) the potential effects of a proposed action on climate change as indicated by assessing GHG emissions, and (2) the effects of climate change on a proposed action and its environmental impacts. The guidance does not propose a specific, quantitative threshold of significance; however, it states that agencies should consider the potential for mitigation measures to reduce or mitigate GHG emissions and climate change effects when those measures are reasonable and consistent with achieving the purpose and need for the proposed action. Examples of mitigation provided for in the guidance include, but are

not limited to, enhanced energy efficiency, lower GHG-emitting technology, carbon capture, carbon sequestration (e.g., restoration of forest, agricultural soils, and coastal habitat), and compensation.

State

California has been a leader among the states in outlining and aggressively implementing a comprehensive climate change strategy that is designed to result in a substantial reduction in total statewide GHG emissions in the future. California's climate change strategy is multifaceted and involves a number of state agencies implementing a variety of state laws and policies.

Assembly Bill 1493

Assembly Bill (AB) 1493 of 2002 requires CARB to develop and adopt the nation's first GHG emission standards for automobiles. These standards, which are also known as Pavley I, cover model years 2012 to 2016 and would raise passenger vehicle fuel economy to a fleet average of 35.5 miles per gallon by 2016.

Executive Order S-3-05

Executive Order S-3-05 was signed by Governor Arnold Schwarzenegger on June 1, 2005. EO S-3-05 established the following statewide emission reduction targets:

- Reduce GHG emissions to 2000 levels by 2010,
- Reduce GHG emissions to 1990 levels by 2020, and
- Reduce GHG emissions to 80 percent below 1990 levels by 2050.

EO S-3-05 created a "Climate Action Team" (CAT) headed by the California Environmental Protection Agency (CalEPA) and including several other state agencies. The CAT is mandated by EO S-3-05 to outline the effects of climate change on California and recommend an adaptation plan. The CAT is also mandated with creating a strategy to meet the emission reduction targets required by EO S-3-05. In April 2006, the CAT published an initial report that accomplished these two tasks. Subsequent CAT reports discussed progress and supplemental recommendations to ensure that the targets of EO S-3-05 are met. The 2010 CAT Report to the Governor and the Legislature was issued in December 2010 (CalEPA, 2010).

California Global Warming Solutions Act of 2006 (AB 32)

Signed by Governor Schwarzenegger on September 27, 2006, AB 32 codifies a key requirement of EO S-3-05, specifically the requirement to reduce statewide GHG emissions to 1990 levels by 2020. AB 32 requires CARB to monitor state sources of GHGs and design emission reduction measures to comply with the law's emission reduction requirements. However, AB 32 also continues the CAT's efforts to meet the requirements of EO S-3-05 and states that the CAT should coordinate overall state climate policy.

To accelerate the implementation of emission reduction strategies, AB 32 requires that CARB identify a list of discrete early action measures that can be implemented relatively quickly. In October 2007, CARB published a list of early action measures that it estimated could be implemented and would serve to meet about one quarter of the required 2020 emissions reductions (CARB, 2007). They include actions such as improvements to landfill methane capture, a vehicle tire pressure program, improvements to heavy-duty truck efficiency, and a low carbon fuels standard (LCFS). On April 23, 2009, CARB adopted a

LCFS. This standard requires that all fuels sold in California must have a reduced carbon content that will lower emissions by 10 percent by 2020.

AB 32 also required that CARB prepare a comprehensive "scoping plan" that identifies all strategies necessary to fully achieve the required 2020 emission reductions. Consequently, in early December 2008, CARB released its scoping plan to the public. The first update to the scoping plan was released in May 2014. The scoping plan calls for an achievable reduction in California's carbon footprint. Reduction of GHG emissions to 1990 levels are proposed, which equates to cutting approximately 30 percent of emissions estimated for 2020. The scoping plan relies on existing technologies and improving energy efficiency to achieve the 30 percent reduction in GHG emission levels by 2020. The scoping plan provides the following key recommendation to reduce GHG emissions:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable energy mix of 33 percent;
- Developing a statewide cap-and-trade program that links with other Western Regional Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures under existing state laws and policies, including California's clean car standards, goods movement measures, and the LCFS; and
- Creating targeted fees, including a public goods charge on water use, fees on emission of gases with high global warming potential, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation.

Executive Order S-01-07

EO S-01-07 was signed by Governor Schwarzenegger on January 18, 2007. It mandates a statewide goal to reduce the carbon intensity of transportation fuels by at least 10 percent by 2020. This target reduction was identified by CARB as one of the AB 32 early action measures identified in its October 2007 report.

Executive Order B-30-15

EO B-30-15 was signed by Governor Jerry Brown on April 29, 2015. It sets interim GHG targets of 40 percent below 1990 by 2030, to ensure California will meet its 2050 targets set by AB 32. It also directs CARB to update the Climate Change Scoping Plan.

Senate Bill 350

Senate Bill 350 codifies the GHG targets for 2030 set by EO B-30-15. To meet these goals, Senate Bill 350 also raises the renewable portfolio standard from 33 percent renewable generation by 2020 to 50 percent renewable generation by December 31, 2030.

Senate Bill 375

Senate Bill 375 provides for the creation of a new regional planning document called a sustainable communities strategy (SCS). An SCS is a blueprint for regional transportation infrastructure and development that is designed to reduce GHG emission from cars and light trucks to target levels that will be set by CARB for 18 regions throughout California. Each of the various metropolitan planning organizations must prepare an SCS and include it in that region's regional transportation plan. The SCS

can influence transportation, housing, and land use planning. CARB will determine whether the SCS will achieve the region's GHG emissions reduction goals. Under Senate Bill 375, certain qualifying in-fill residential and mixed-use projects would be eligible for streamlined California Environmental Quality Act (CEQA) review.

Local

Yuba County 2030 General Plan

Policies in the General Plan that are relevant to the off-reservation GHG emissions in the vicinity of the Proposed Project are included in the following list.

Public Health and Safety Element

Goal HS-5: Greenhouse Gas Emissions and Climate Change Provide greenhouse-gas efficient development patterns and successfully adapt to future changes in Yuba County's climate**.**

Policy HS-5.1 The County will guide land use change, direct investments, and apply its fees and programs to encourage more GHG-efficient development patterns, as feasible.

Policy HS5.2 The County's regulations, investments, and fee programs should be structured to reduce net GHG emissions for new development in the unincorporated County consistent with the level of emissions needed per-capita or per service population to achieve the County's fair share of the state's emissions mandate.

Policy HS5.4 The County will use an efficiency-based threshold (net emissions per-capita + employee) to evaluate proposed urban land uses, such as homes, retail, office, and other uses where the location, density, and mix of uses in the project area is important to the level of GHG generation.

3.3.2 ENVIRONMENTAL SETTING

Regional Meteorology

The Project Site lies within the NSVAB. The NSVAB is bounded on the north and west by the Coastal Ranges and on the east by the southern portion of the Cascades mountain range and the northern portion of the Sierra Nevada mountain range. These mountains create a barrier to airflow, which, under certain meteorological conditions, can trap pollutants in the valley. The climate of the valley portions of Yuba County typically includes cool, relatively mild winters and hot, dry summers. Approximately 85 percent of the annual rainfall in the NSVAB occurs between October and March; approximately 95 percent falls between October and April. Temperatures at the Project Site average 62 degrees Fahrenheit annually, ranging (on the average) from the mid-30s on winter mornings to the high 90s on late summer afternoons.

Air Pollutants of Concern

Air pollutants of concern for an air basin include CAPs that are currently listed as having a nonattainment or maintenance status according to the applicable NAAQS and violation criteria. As shown in **Table 3.3-2**, Yuba County is designated either unclassifiable/attainment or unclassified for all NAAQSs. Yuba County has been designated nonattainment under the state ozone and PM_{10} standards. Yuba County is either in attainment or unclassified for all other state standards. Therefore, ozone and

PM_{10} are considered air pollutants of concern in the Yuba County and, accordingly, the area surrounding the Project Site.

TABLE 3.3-2. YUBA COUNTY ATTAINMENT STATUS

Pollutant	NAAQS	CAAQS
O_3, 8-hour	Unclassified/Attainment	Nonattainment
PM_{10}	Unclassified	Nonattainment
$PM_{2.5}$	Attainment	Attainment
CO	Unclassified/Attainment	Unclassified
N_2O	Unclassified/Attainment	Attainment
SO_2	Unclassified/Attainment	Attainment
Pb	Unclassified/Attainment	Attainment
Source: CARB, 2016.		

Ozone

Although ozone is a vital component of the upper atmosphere to reduce the intensity of the sun's energy, ground-level ozone (ozone located within the breathing height of the general population) is classified as a CAP. For the purposes of this Draft TEIR, the discussion of ozone refers to ground-level ozone generated mainly from anthropogenic sources. Ozone is created in the presence of sunlight through photochemical reactions involving ROGs and NO_x. The largest source of ROGs and NO_x is the incomplete combustion of fossil fuels. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. As a photochemical pollutant, ozone is formed only during daylight hours under appropriate conditions, but is destroyed throughout the day and night. Ozone is considered a regional pollutant, as its generation from ROGs and NO_x takes place over time and is often most noticeable downwind from the sources of the emissions.

Particulate Matter

Particulate matter is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. Particles 10 microns or less in diameter are defined as "respirable particulate matter" or "PM_{10}." Fine particles are 2.5 microns or less in diameter ($PM_{2.5}$) and can contribute significantly to regional haze and reduction of visibility in California.

Extensive research indicates that exposure to outdoor PM_{10} and $PM_{2.5}$ levels exceeding current air quality standards is associated with increased risk of hospitalization for lung and heart-related respiratory illness, including emergency room visits for asthma. PM exposure is also associated with increased risk of premature deaths, especially in the elderly and people with pre-existing cardiopulmonary disease. In children, studies have shown associations between PM exposure and reduced lung function and increased respiratory symptoms and illnesses. Besides reducing visibility, the acidic portion of PM (nitrates, sulfates) can harm crops, forests, aquatic and other ecosystems.

Carbon Monoxide

CO is readily dispersed throughout the atmosphere once emitted and is therefore a localized air quality issue close to the emission source. CO is an acute (short-term) health threat. Although the NSVAB is classified by the USEPA as being in attainment for the NAAQS, CO is a pollutant of concern at major signalized intersections that exhibit prolonged vehicle idling times.

Odor

While odors rarely cause physical harm, they can be unpleasant and can lead to considerable distress among the public. No requirements for odor control are included in federal or state air quality regulations; as a result, local air districts usually have no rules or standards related to odor emissions, other than general air quality nuisance rules.

Types of operations that are typically evaluated for odor concerns include waste processing and heavy industrial facilities such as wastewater treatment plants, landfills and composting facilities, chemical manufacturing operations, and confined animal facilities. The Proposed Project does not include any source types that have historically been associated with odor complaints.

Sensitive Receptors

Variables that may contribute to a greater-than-average sensitivity to air pollution include pre-existing health problems, proximity to an emissions source, and duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be sensitive receptors because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems. Residential areas are also considered sensitive to poor air quality because people usually stay home for extended periods, resulting in greater exposure to ambient air quality. Recreational uses are considered sensitive because vigorous exercise associated with recreation places a high demand on the human respiratory system.

The land surrounding the Project Site is primarily agricultural land. Residential land uses are generally restricted to the planned communities of Olivehurst and Plumas Lakes with the exception of some rural residential uses, as allowed by existing agricultural zoning designations. The only residence located in the vicinity of the Project Site is a ranch home located approximately 200 feet to the west across Forty Mile Rd. There is a second ranch style residence south of the Project Site along Forty Mile Rd that is approximately a ½ mile away. No other residential land uses exist in the vicinity of the Yuba Site. Plumas School is located about 1.6 miles to the south along Hoffman-Arboga Road.

Climate Change

Introduction

The extent to which human activities affect global climate change is variable depending on future emissions. It is anticipated that the average global temperature could rise 1.5 to 4.0^{o}C (2.7 to 7.2^{o}F) by 2100 (Intergovernmental Panel on Client Change [IPCC], 2013). The *Intergovernmental Panel on Climate Change Fifth Assessment Report* identifies anthropogenic GHGs as a very likely contributing factor to changes in the Earth's climate (IPCC, 2013).

The Greenhouse Effect and Climate Change

The Earth's temperature is regulated by a system known as the "greenhouse effect." GHGs are primarily water vapor, CO_2, methane (CH_4), and nitrous oxide (N_2O), which trap the heat of the sun within the Earth's atmosphere, preventing radiation from dissipating into space. Water vapor is the most abundant GHG and CO_2 is a distant second.

IPCC modeling estimates that anthropogenic CO_2 in the lower atmosphere has increased by approximately 40 percent since 1750. Due to the challenges inherent in modeling the complexities of the Earth's climate, the proportional importance of anthropogenic activities as opposed to natural feedback systems is exceptionally difficult to establish. The IPCC concludes that since the mid-20th century, there has been an observed global mean surface warming of approximately 0.6^{o}C (1.1^{o}F) to 0.7^{o}C (1.3^{o}F), and that it is extremely likely that more than half of the increase was caused by anthropogenic increases in GHG emissions.

IPCC theorizes that a continuation of this warming trend could have profound implications for Earth's climate, including flooding, erratic weather patterns, increased sea levels, and reduced Arctic ice. The IPCC projects a number of future GHG emissions scenarios, leading to a varying severity of impacts on the environment and the global economy. The long-term effects of climate change depend on future emissions; however, the IPCC asserts that the observed frequency and intensity of daily temperature and heat waves since the mid-20th century are very likely attributed to global climate change (IPCC, 2013).

GHG Inventory

GHG sources are both anthropogenic and natural. Some examples of anthropogenic sources are combustion of fossil fuel, evaporation of synthetic chemicals, agriculture, and combustion of coal. Natural sources include water vapor and naturally occurring N_2O, CO_2, O_3, and CH_4. Because GHGs are relatively stable in the atmosphere and essentially uniformly dispersed throughout the troposphere and stratosphere, the climatic impact of GHG emissions does not depend on the location of the emissions.

To provide a comparative analysis between sources of GHGs, the carbon dioxide equivalent (CO_2e) of each GHG is assessed. CO_2e is a method by which emissions of individual GHGs are normalized in relation to heat-capturing abilities. As shown in **Table 3.3-3**, CO_2 is used as the baseline for GHG inventories and is given a CO_2e value of 1. Other significant GHGs are assigned a CO_2e ratio based on their ability to trap heat in comparison with that of CO_2. For example, CH_4 has the ability to capture 21 times more heat than CO_2 and therefore is given a CO_2e value of 21. To calculate total GHG emissions for a source, estimated emissions for each GHG are multiplied by the corresponding CO_2e value and then the converted values are summed. Establishing a comparable total emissions rate provides a means for comparing emissions sources and presenting the relative overall effectiveness of emission reduction measures for reducing project contributions to global climate change.

TABLE 3.3-3. GREENHOUSE GAS CO_2 EQUIVALENT

Gas	CO_2e Value
CO_2	1
CH_4	21
N_2O	310
HFCs/PFCs[1]	6,500
SF_6[1]	23,900

Notes: CO_2e = carbon dioxide equivalent; CH_4 = methane, N_2O = nitrous oxide; HFCs/PFCs = hydrofluorocarbons/perfluorocarbons; SF_6 = sulfur hexafluoride.
[1] High-global warming potential pollutants.
Source: UNFCCC, 2014.

3.3.3 IMPACT ANALYSIS

Significance Criteria

The following criteria are established by the Environmental Impact Analysis Checklist in the Procedures (**Appendix A**) and are used in this section to evaluate the potential off-reservation impacts of the Proposed Project on air quality. Such an impact is considered significant if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose off-reservation sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people off reservation.

Criteria Air Pollutants

As discussed in **Section 3.3.2**, the NSVAB surrounding the Project Site is classified as and attainment or unclassified for all NAAQSs. Because the Proposed Project is not located within a non-attainment or maintenance area, a conformity determination review is not applicable pursuant to the CAA General Conformity Rule (40 CFR § 51.853 [b][1] and [2]).

However, Yuba County has been designated nonattainment under the CAAQSs for ozone and PM_{10}. Therefore, a significant impact would occur if the Proposed Project would result in emissions of ozone precursors (ROGs and NO_x) or PM_{10} at levels that would conflict with or obstruct an applicable air quality plan, violate an air quality standard, or contribute to an existing or projected air quality violation. Accordingly, the FRAQMD has established significance thresholds of 25 lb/day for NO_x and ROG and 80 lb/day for PM_{10}.

Although the NSVAB is classified as attainment for CO, the corresponding impacts are assessed below to determine if the increase in traffic attributable to the Proposed Project could result in the exceedance of the 1-hour NAAQS of 35 ppm. According to the protocol adopted by the California Department of Transportation (Caltrans), projects that would lead to worsening the level of service (LOS) of a signalized intersection to E or F represent a potential for a CO violation and would require further analysis;

projects that do not worsen signalized intersections to LOS E or F would require no more analysis. Projects that significantly increase the delay (increase in delay of 10 seconds or more) at an intersection operating at LOS E or LOS F under existing conditions would represent a potential for a CO violation and would require further analysis. Refer to **Section 3.11**, **Transportation/Traffic**, for the definition of LOS.

Odor

Because there are no applicable odor detection thresholds due to the subjective nature of odors and odor sensitivity, the potential for significant odor impacts is typically evaluated based on criteria such as historical complaints pertaining to similar sources.

Diesel Particulate Matter

Because there are no applicable DPM thresholds, the potential for significant DPM impacts is typically evaluated based on the duration of exposure and location and quantity of off-reservation sensitive receptors surrounding the Project Site.

Climate Change

No specific quantitative thresholds have been established by the County or USEPA, or any other federal agency for climate change and GHG emissions. The 2016 CEQ guidance does not establish any particular quantity of GHG emissions as "significantly" affecting the quality of the human environment or give greater consideration to the effects of GHG emissions and climate change over other effects on the human environment. However, the guidance does state that agencies should consider reasonable ways to reduce action-related GHG emissions or increase carbon sequestration in the same fashion as they consider alternatives and mitigation measures for any other environmental effects. Therefore, this TEIR includes a quantification of GHG emissions resulting from the project alternatives in CO_2e, and a discussion of reduction measures to reduce action-related GHG emissions.

Methodology

Construction

Emissions from equipment, mobile sources, and architectural coating applications were calculated using the methodology outlined in the CalEEMod User's Guide (refer to CalEEMod output in **Appendix F**). Published emissions factors from CARB were applied to project-specific estimates of equipment use, number of construction employee and vendor vehicle trips, and application rates of architectural coatings based on square footages of the components of the Proposed Project.

Operation

Operational emissions were calculated at the buildout year of 2022 by quantifying operation-related fuel combustion from building energy and stationary engines and mobile sources.

Mobile-source emissions estimates are based on miles traveled by the new vehicle trips associated with the Proposed Project and trip characteristics of the patrons and employees. Trip generation rates for the Proposed Project were based on patron data from the existing facilities. Refer to **Appendix D** and **Section 3.11, Transportation/Traffic,** for a detailed discussion of trip generation. VMT and associated emissions were calculated using CalEEMod (refer to **Appendix F**).

Carbon Monoxide Screening Procedures

The Transportation Project-Level CO Protocol (CO Protocol; UC Davis, 1997) deals with project-level air quality analysis needed for federal conformity determinations, NEPA, and CEQA. In 1997, the USEPA approved the CO Protocol for use as an alternative "hot spot" analysis method in California. The CO Protocol provides a screening procedure for determining when a project may be of concern for CO violations and identifies a standardized method of using the CALINE4 dispersion model for detailed analysis if necessary. The CO Protocol is the standard method for project-level CO analysis by Caltrans, replacing the Air Quality Technical Analysis Notes (Caltrans, 2016a).

CO concentrates on the ground and does not disperse well, causing localized impacts at major congested intersections. Hotspot analysis is deemed necessary if, as a result of the Proposed Project, an intersection would operate at or below LOS E.

Climate Change

Climate change is a global phenomenon attributable to the sum of all human activities and natural processes worldwide. As such, it is not analytically possible to link specific climate change phenomena to the Proposed Project. Accordingly, the Proposed Project's impact on climate change is most appropriately addressed in terms of the incremental contribution to a global cumulative impact. For a discussion and analysis of cumulative impacts related to climate change, refer to **Section 3.12**, **Indirect and Cumulative Off-Reservation Environmental Impacts**.

Impact 3.3.1: The Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan, violate any air quality standard or contribute to existing or projected air quality violation, or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

Construction

Construction of the Proposed Project would generate ROG, NO_x, and PM_{10} from the operation of heavy equipment and construction machinery, construction worker and vendor trips (mobile sources), and application of architectural coatings. Construction activities are temporary in nature and would occur intermittently.

Table 3.3-4 presents the unmitigated and mitigated construction emissions associated with the Proposed Project as quantified in **Appendix F**. Unmitigated construction emissions would be less than the FRAQMD thresholds for both ROG and PM_{10}. However, unmitigated construction emissions would exceed the FRAQMD threshold for NO_x. This would be a potentially significant off-reservation impact. **Mitigation Measure 3.3-1** would be implemented during construction to reduce NO_x emissions. As shown in **Table 3.3-4**, mitigated construction emissions would be less than the FRAQMD thresholds for NO_x. Therefore, construction of the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan, violate an air quality standard, or contribute to the existing or projected air quality violation. Construction emissions under the Proposed Project would be less than significant.

TABLE 3.3-4. PROPOSED PROJECT CONSTRUCTION EMISSIONS

Construction Year	Pollutants of Concern		
	ROG	NO_x	PM_{10}
	lb/day		
2021 Unmitigated	2.71	18.81	3.24
2022 Unmitigated	3.42	7.92	1.42
Total Unmitigated Emissions	6.14	26.73	4.65
2021 Mitigated	1.67	15.88	2.41
2022 Mitigated	2.97	7.51	1.14
Total Mitigated Emissions	**4.64**	**23.38**	**3.55**
FRAQMD Thresholds	*25*	*25*	*80*
Threshold Exceeded	***No***	***No***	***No***
Source: **Appendix F**.			

Operation

Operational emissions would be primarily indirect (i.e., not associated with a point source on the Project Site) and would be generated by new patron and employee vehicle trips to the Project Site. Combustion of natural gas on the Project Site would also contribute to total emissions associated with the operation of the Proposed Project.

Operational emissions were estimated for the buildout year of 2022. **Table 3.3-5** presents the unmitigated operational emissions associated with the Proposed Project as quantified in **Appendix F**. Unmitigated Proposed Project emissions would be less than the FRAQMD thresholds for ROG, NO_x, and PM_{10}. Use of unpaved overflow parking areas may result in additional fugitive dust emissions during operation of the Proposed Project. **Mitigation Measure 3.3-2** would be implemented during operation to reduce fugitive dust emissions from unpaved parking areas. Therefore, implementation of the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan, violate an air quality standard, or contribute to the existing or projected air quality violation. Operational emissions under the Proposed Project would be less than significant.

TABLE 3.3-5. PROPOSED PROJECT OPERATIONAL EMISSIONS

Source	Pollutants of Concern		
	ROG	NO_x	PM_{10}
	lb/day		
Area	2.64	0.00	0.00
Energy	0.05	0.49	0.04
Mobile	1.23	2.99	2.18
Total Emissions	**3.92**	**3.48**	**2.21**
FRAQMD Thresholds	*25*	*25*	*80*
Threshold Exceeded	**No**	**No**	**No**
Source: **Appendix F**.			

Impact 3.3.2: The Proposed Project would not expose off-reservation sensitive receptors to substantial CO concentrations.

CO disperses readily into the atmosphere once emitted. Therefore, elevated concentrations of CO, which can have adverse effects on sensitive receptors, tend to occur at intersections that experience high traffic volumes, resulting in long delays and vehicle idling times if the LOS is exceeded for the intersection. As described previously under the significance threshold for CAPs, emissions of CO generated by the Proposed Project would have the potential to cause a violation of short-term standards if implementation of the Proposed Project would result in congestion of roadways and/or intersections within the study area (refer to **Appendix D**).

The concern relating to CO is normally limited to major signalized intersections operating at LOS E or F. According to the traffic memorandum prepared for the Proposed Project (**Appendix D**), no signalized intersections or roadways within the off-reservation study roadway network would experience LOS E or F after mitigation. Therefore, the screening procedures described in the CO Protocol (UC Davis, 1997) do not indicate that microscale CO modeling is necessary (Caltrans, 2015b). Implementation of the Proposed Project would not expose off-reservation sensitive receptors to substantial CO concentrations and would result in a less-than-significant impact on air quality in relation to traffic volumes and CO emissions.

Impact 3.3.3: The Proposed Project would not expose off-reservation sensitive receptors to substantial DPM concentrations.

Construction

Construction of the Proposed Project would result in emissions of DPM from heavy equipment use. Quantification of construction DPM emissions is provided in **Appendix F**. Given the minimal extent of grading activities (refer to **Section 2.0**, **Project Description**) and the distance to the nearest sensitive receptor (approximately 600 feet from construction activities to the nearest residence), exposure of substantial levels of DPM to off-reservation sensitive receptors would not occur. Therefore, construction of the Proposed Project would result in a less-than-significant impact on air quality in relation to DPM emissions.

Operation

Off-reservation emissions would occur only from vendor trips and charter buses; however, the levels of emissions from these types of vehicles are not sufficient to expose nearby sensitive receptors to substantial DPM concentrations. Therefore, operation of the Proposed Project would result in a less-than-significant impact on air quality in relation to DPM emissions.

Impact 3.3.4: The Proposed Project would not create objectionable odors affecting a substantial number of people off reservation.

Construction of the Proposed Project would generate minor odors from heavy equipment and fugitive dust. Construction-related odors would dissipate quickly and would not extend beyond the boundaries

of the Project Site. Additionally, implementation of **Mitigation Measure 3.3-1** would further reduce heavy equipment and fugitive dust emissions during construction.

Operation of the Proposed Project would not include new facilities that would generally emit odors, such as large industrial and manufacturing facilities. Furthermore, there are not a substantial number of people in the off-reservation vicinity of the Project Site, as described above under "Sensitive Receptors." No impact would occur.

3.3.4 MITIGATION MEASURES

The following mitigation measure is recommended to mitigate specific impacts identified in this TEIR:

3.3-1 To reduce construction emissions, the Tribe shall require that construction contractors implement the following best management practices during construction:

- Off-road construction equipment shall utilize tier three engines as defined by the USEPA's Vehicle Emission and Fuel Standards Program, to the extent that such equipment is feasibly available. In addition, construction equipment shall be operated with a level three diesel particulate filter.
- Exposed soil shall be sprayed with water daily as needed.
- Dust emissions shall be minimized during transport of fill material or soil by wetting down loads, ensuring adequate freeboard (space from the top of the material to the top of the truck bed) on trucks, and/or covering loads.
- Dirt, gravel, and debris piles shall be covered as needed to reduce dust.

3.3-2 Signs limiting traffic speeds in the unpaved parking lot to no more than 15 miles per hour will be strategically placed at the entrance to and throughout the unpaved parking lot. Additionally, on the days that the unpaved overflow parking lots are used for employee and/or visitor parking, the Tribe shall spray exposed parking areas with water or dust suppressants as needed.

3.4 BIOLOGICAL RESOURCES

This section addresses the off-reservation environment associated with biological resources, discusses potential impacts of the Proposed Project on off-reservation biological resources, and recommends mitigation measures recommended to reduce any potentially significant off-reservation impacts on regulated biological resources.

3.4.1 REGULATORY SETTING

Federal

Federal Endangered Species Act

Provisions of the Federal Endangered Species Act of 1973 (FESA), as amended (16 United States Code [USC] 1531), protect federally listed threatened and endangered wildlife and their habitat from take (50 Code of Federal Regulations [CFR] §§ 17.11, 17.12). Under FESA, "take" includes activities that "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" as well as any "attempt to engage in any such conduct" (16 USC 1531[3]). The U.S. Fish and Wildlife Service (USFWS) defines the term "harm" to include "significant habitat modification or degradation" (50 CFR § 17.3). On June 29, 1995, the U.S. Supreme Court ruled that harm may include habitat modification "where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."

The USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) implement Section 10(a)(1)(b) of FESA, which allows non-federal entities under consultation with the USFWS and NMFS to obtain incidental take permits for federally listed wildlife. Compliance with Section 10(a)(1)(b) is not required for federally listed plants.

Wetlands and Other Waters of the United States

Any project that involves discharge of dredged or fill material into navigable waters and other waters of the U.S. must first obtain authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). Projects requiring a 404 permit under the CWA also require a Section 401 water quality certification from either the U.S. Environmental Protection Agency (USEPA) (for trust land such as the Project Site) or the appropriate Regional Water Quality Control Board (RWQCB) (for non-trust land). These two agencies also administer the National Pollutant Discharge Elimination System (NPDES), which requires general permits for construction activities disturbing one acre or more (refer to **Section 3.7**, **Hydrology and Water Quality**, for further discussion).

Migratory Bird Treaty Act

Most bird species, especially those that are breeding, migratory, or of limited distribution, are protected under federal and state regulations. Under the Migratory Bird Treaty Act of 1918 (16 USC §§ 703-711), federally listed migratory bird species (50 CFR § 10.13) and their nests and eggs are protected from injury or death, and project-related disturbances during the nesting cycle must be reduced or eliminated.

Bald and Golden Eagle Protection Act

The Bald Eagle Protection Act was enacted in 1940 to protect bald eagles and was later amended to include golden eagles (16 USC §§ 668-668). It prohibits take, possession, and commerce of bald and golden eagles, parts, feathers, nests, or eggs, with limited exceptions. The definition of take includes to

pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. Bald eagles may not be taken unless a permit is issued prior to take. Activities that can be authorized by a permit include scientific research, exhibition, tribal religious events, depredation, falconry, and the take of inactive golden eagle nests that interfere with resource development or recovery operations

State and Local

The Project Site is located on trust land and is not subject to state or local controls concerning biological resources. However, such controls, including those described below, apply to off-reservation land in the vicinity of the Project Site.

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to FESA, but is limited to species under state jurisdiction that are listed by the state as threatened or endangered. Under Section 2080 of the California Fish and Wildlife Code, take is prohibited. "Take" is defined under CESA as activities that "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Under Section 2081, the California Department of Fish and Wildlife (CDFW) can authorize take if an incidental take permit is issued by the U.S. Secretary of the Interior or the U.S. Secretary of Commerce in compliance with FESA for jointly listed species, or if the director of CDFW issues a permit and impacts are minimized and mitigated for state-listed species. In general, CESA does not cover habitat impacts.

Special-Status Species

The term "special-status species" has been defined to include those species that are listed as endangered or threatened under a range of environmental protections. These species may be defined as endangered or threatened under the FESA (or formally proposed for, or candidates for, listing), or are listed as endangered or threatened under CESA (or proposed for listing), or are defined as rare or endangered under the California Environmental Quality Act (CEQA). These species can be designated as species of special concern by the CDFW and are designated as endangered or rare, pursuant to California Fish and Wildlife Code § 1901, or as fully protected, pursuant to California Fish and Wildlife Code § 3511, § 4700, and § 5050. The California Native Plant Protection Act provides protections to those plants considered rare. This definition is provided by the California Native Plant Society (CNPS) which defines certain species as "rare, threatened, or endangered in California" (Lists 1B and 2).

California Fish and Wildlife Code

California Fish and Wildlife Code §§ 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. California Fish and Wildlife Code § 3511 lists birds or other species that are "fully protected" and may not be taken or possessed except under specific permit. Consultation with CDFW may be required if construction on trust land would potentially impact state-listed species or nesting raptors.

Streambed Alteration Agreement (Section 1602)

California Fish and Wildlife Code Section 1602 requires notification to CDFW before beginning activities that obstruct or divert the natural flow of a river, stream, or lake; change or use of any material from the bed, channel, or bank of a river, stream, or lake; or deposit or disposal of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake. California Fish and Wildlife Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. Notification to CDFW would be required if the Proposed Project

would potentially result in activities impacting off-reservation habitat protected under California Fish and Wildlife Code Section 1602.

Oak Woodlands Conservation Act

The Oak Woodlands Conservation Act provides that counties shall determine whether a project within its jurisdiction may result in a conversion of oak woodlands that would have a potentially significant impact on the environment. If a county determines that there may be a significant impact to oak woodlands from a project, the county may require oak woodlands mitigation measures to mitigate the significant impact of the conversion of oak woodlands consistent with county plans, policies, and regulations. Yuba County (County) has not yet adopted an oak woodland protection policy or ordinance or a Habitat Conservation Plan (HCP).

Yuba County 2030 General Plan

The *Yuba County 2030 General Plan* (General Plan), adopted in 2011, is the guiding document for development in the unincorporated areas of the County, including the off-reservation properties in the vicinity of the Project Site (Yuba County, 2011a). The General Plan does not apply to trust land or to the Proposed Project itself. Policies in the General Plan that are relevant to the off-reservation biological resources in the vicinity of the Proposed Project include the following.

Natural Resource Element

Goal NR-5 Protect and restore habitat for special-status species that have the potential to occur in Yuba County.

Policy NR-5.1 New developments that could adversely affect special-status species habitat shall conduct a biological resources assessment and identify design solutions that avoid such adverse effects. If, after examining all feasible means to avoid impacts cannot be avoided, then impacts shall be mitigated in accordance with guidance from the appropriate state or federal agency charged with the protection of the subject species, including pre-construction surveys conducted according to applicable standards, where necessary.

Policy CO-5.2 The County will coordinate its environmental review and mitigation requirements with the Yuba-Sutter Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP), once adopted.

Policy NR-5.7 New developments and public investments near Yuba County's streams and rivers shall be designed to avoid tree removal, erosion, or other modifications that would adversely affect salmonid habitat.

Policy NR-5.9 New developments shall be designed to avoid the loss of jurisdictional wetlands. If loss if unavoidable, the County will require applicants to mitigate the loss on a "no net loss" basis through a combination of avoidance, minimization, restoration, and/or constructed wetlands, in accordance with federal and state law.

Policy NR-5.10 The County will encourage measures on agricultural lands that conserve or restore habitat.

Policy NR-5.13 New developments that could adversely affect wildlife movement corridors shall conduct a biological assessment and avoid placing any temporary or permanent barriers within such corridors, if they are determined to exist on-site. Avoiding barriers to wildlife movement may be accomplished at the project or community level.

Policy NR-5.15 Roads, water lines, sewer lines, drainage facilities, and other public facilities constructed to serve unincorporated county development shall be located and designed to avoid substantial impacts to stream courses, associated riparian areas, and wetlands, to the greatest extent feasible.

Goal NR-10 Preserve the County's trees and other vegetation that provide aesthetic and habitat benefits.

Policy NR-10.1 Building placement, grading, and circulation should be planned to retain as much existing native vegetation as feasible, with priority on preserving existing oak trees that have a diameter at breast height (dbh) of 6 inches or greater and all other trees that have a dbh of 30 inches or greater. The County's policies and standards for fire safety may override consideration of retaining existing vegetation in certain circumstances.

Policy NR-10.2 The County will encourage the preservation of healthy, attractive native vegetation during land development. Where this is not feasible, the County will require landscaping that uses climate-appropriate plant materials.

3.4.2 ENVIRONMENTAL SETTING

Regional Setting

The Project Site is situated along the eastern edge of the Sacramento Valley at approximately 70 feet in elevation. The Sacramento Valley is the wetter and more northern sub-region of the Central Valley (Hickman, 1993). The climate of the area is characterized as hot and semi-arid to sub-humid, and the average annual precipitation is approximately 22.02 inches (U.S. Climate Data, 2021). This region is currently dominated by agriculture; although it once supported grasslands, marshes, extensive riparian woodlands, and valley oak savannas. On all sides, the Sacramento Valley sub-region ends where oak/pine woodlands or mixed-hardwood forests begin. The Project Site is located on the alluvium formed by deposits associated with the Feather and Yuba Rivers, collecting the watersheds of the northwestern Sierra Nevada Mountains (Yuba County, 2011b). Although agricultural fields dominate the immediate vicinity of the Project Site, riparian corridors occur along portions of natural drainages and waterways to the north and south. Detailed descriptions of habitat types existing in the off-reservation vicinity of the Project Site are presented below.

Soils

Soils in the off-reservation vicinity of the Project Site are primarily formed from mixed alluvium (NRCS, 2021). Most soils in the vicinity of the Project Site are moderately well-drained to well drained loams and silty clay loams. No volcanic or serpentine soils are present (NRCS, 2021). Soil series present on the Project Site and the off-reservation vicinity include Conejo, and San Joaquin soils. A more detailed discussion of soils is included in **Section 3.5**, **Geology and Soils**.

Habitats

A habitat type is defined as a system supporting a similar and somewhat predictable set of plants and animals, and is described based on dominant vegetation, wildlife, and structure. Three major habitat types are present in the off-reservation vicinity of the Project Site based on desktop review, site visits and past surveys: ruderal/developed, palustrine emergent wetlands, and agriculture. To better understand the ecological relationships of common plant and animal species occurring in the off-reservation vicinity of the Project Site, these habitats have been classified, where applicable, according to the natural communities in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland, 1986), vegetation series in Sawyer and Keeler-Wolf's *A Manual of California Vegetation* (1995), *Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities* (CDFW, 2018), botanical survey guidelines of the California Native Plant Society (CNPS, 2001), and The Jepson Manual (Baldwin, 2012). Habitat descriptions include common plant and wildlife species observed or expected to be associated with each habitat type. The following is a summary and description of each habitat type within the surrounding off-reservation areas and along the areas proposed for traffic mitigation related to the Proposed Project.

Ruderal/Developed

Ruderal/developed habitat includes anthropogenic features such as buildings, roads, parking lots, and other structures, and typically is characterized by highly disturbed vegetation communities associated with these features and or paved or graded surfaces. Vegetation associated with ruderal/developed habitat in the off-reservation vicinity of the Project Site includes horticultural plants used in landscaping, and communities of exotic and invasive roadside weeds such as medusahead grass (*Taeniatherum caput-medusae*), yellow star-thistle (*Centaurea solstitialis*), and broad-leaf pepper grass (*Lepidium latifolium*) along Forty Mile Rd (AES, 2007). Ruderal/developed habitat is found around buildings and structures, along roads and paved surfaces, and in other landscaped areas including the supplemental parking lots adjacent to the trust land primarily to the west and south east of the proposed live music venue and BOH, etc. which were developed during the construction of the Resort and are still in use under existing County Permits.

Kimball Creek/ Wetland

Palustrine emergent wetlands are found immediately around the intermittent Kimball Creek, 1,800 feet to the north of the Project Site. Once Kimball Creek crosses Forty Mile Rd the wetlands are reduced along the creek banks and the creek becomes channelized. These wetlands hold persistent emergent aquatic plants and include shallow waters that are nontidal. Due to the proximity of the wetlands to Kimball Creek, these features experience seasonal flooding in the winter and are mostly dry in the summers. Dominant vegetation observed within the palustrine emergent wetland includes: Italian ryegrass (*Lolium multiflorum*), curly dock (*Rumex crispus*), lady's thumb (*Polygonum persicaria*), Himalayan blackberry (*Rubus discolor*), red willow (*Salix laevigata*), pale rush (*Juncus patens*), and narrow-leaved cattail (*Typha latifolia*) (AES, 2007).

Agriculture

The majority of the surrounding area is characterized as similar agriculture land uses. Rice is the most notably grown crop in the area and is cultivated on the west side of Forty Mile Rd, opposite of the Project Site. Corn has been grown as recently as 2020 on adjacent parcels to the south of the Project Site. Other than the intended cultivated crop, these areas are largely devoid of vegetation. Pasture is the predominant land use along the east side of Forty Mile Rd to the north of the Project Site. The

following plant species were the dominant plant species observed within the pasture fields: cultivated oat (*Avena sativa*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), Italian ryegrass (*Lolium multiflorum*), small rattlesnake grass (*Briza minor*), Mediterranean barley (*Hordeum marinum ssp. gussoneanum*), long-beaked filaree (*Erodium botrys*), and wild radish (*Raphanus sativus*). Agricultural production areas provide habitat for various mammal species, especially rodents, as well as birds, snakes, and other reptiles. Agricultural habitat with low-growing plant species can also provide foraging habitat for raptors.

Special-Status Species

Special-status species with the potential to occur in the off-reservation vicinity of the Project Site were identified based upon a review of pertinent literature, aerial photographs, topographic maps, and special-status species lists from the USFWS, California Native Diversity Database (CNDDB), and CNPS (**Appendix G**). The CNDDB list was developed by querying the database for special-status species records within the "Olivehurst, California" 7.5-minute quadrangle. The CNPS list was obtained by querying the online inventory of *Rare and Endangered Plants* (CNPS, 2021) for special-status species records within the "Olivehurst, California" 7.5-minute quadrangle and the eight surrounding quadrangles. The USFWS Information for Planning and Conservation list was generated for the area surrounding the Project Site. **Table 3.4-1** lists the name, regulatory status, distribution, habitat requirements, and potential to occur for each of the potential regionally occurring special-status species identified in these USFWS, CNDDB, and CNPS species lists.

For each species, the habitat requirements were assessed and compared with the habitats present in the off-reservation vicinity of the Project Site. Special-status species with the potential to be found in the off-reservation vicinity of the Project Site are discussed in more detail following the table. Species that are not addressed below were determined to have no potential to occur in the off-reservation vicinity of the Project Site based upon elevational distribution, specific habitat requirements, soil requirements, and other criteria. Based upon this review, the off-reservation vicinity of the Project Site represents potential habitat for seven special-status animal species and nine special-status plant species. For all species discussed, CNDDB records within 10 miles of the Project Site were evaluated to identify patterns of distribution, abundance and habitat use, and to better assess the potential of these species to occur in the off-reservation vicinity of the Project Site.

TABLE 3.4-1. SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE VICINITY OF THE PROJECT SITE

Scientific Name **Common Name**	**Federal / State / CNPS List**	**Distribution**	**Habitat Requirements**	**Period of Identification**	**Potential to Occur In Nearby Off-Reservation Habitat**
Plants					
Pseudobahia bahiifolia Hartweg's golden sunburst	FE/CE/1B	Known to occur in El Dorado, Fresno, Madera, Merced, Stanislaus, Tuolumne, and Yuba counties.	Annual shrub found in cismontane woodland and Valley and foothill grassland on clay, which is often acidic, from 15 to 200 meters.	March to April	**No.** Suitable habitat for this species does not occur near the Project Site or areas of off-reservation impacts.
Monardella venosa Veiny monardella	--/--/1B.1	Known range of this species includes Butte, Sutter, Tuolumne, and Yuba Counties.	An annual herb in the mint family (Lamiaceae). It occurs in cismontane woodland and in substrates of heavy clay in valley and foothill grassland communities. Its elevation range extends from 60 to 410 meters above mean sea level.	May to July	**No.** Suitable habitat for this species does not occur near the Project Site or areas of off-reservation impacts.
Amphibians					
Rana draytonii California red-legged frog	FT/CSC/--	Known to occur along the coast from Mendocino County to Baja California and inland through the northern Sacramento Valley into the foothills of the Sierra Nevada, south to eastern Tulare County, and possibly eastern Kern County. Currently accepted range excludes the Central Valley.	Occurs in permanent and temporary pools of streams, marshes, and ponds with dense grassy and/or shrubby vegetation. Elevations range from 0 to 1,160 meters.	November to March (breeding) June to August (non-breeding)	**Yes.** There is potential for this species to occur in nearby off-reservation habitat.
Birds					
Buteo swainsoni Swainson's hawk	--/CT/--	In California, breeds in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, Antelope Valley, and in eastern San Luis Obispo County.	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands, alfalfa, or grain fields supporting rodent populations.	March to October	**Yes.** Suitable habitat for this species is found on the off-reservation impact areas associated with the Proposed Project.

Scientific Name **Common Name**	**Federal / State / CNPS List**	**Distribution**	**Habitat Requirements**	**Period of Identification**	**Potential to Occur In Nearby Off-Reservation Habitat**
Coccyzus americanus occidentalis Western yellow-billed cuckoo	FT/CE/--	In California, breeding populations of greater than five pairs which persist every year in California are currently limited to the Sacramento River from Red Bluff to Colusa and the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve.	Western yellow-billed cuckoos prefer isolated wooded riparian corridors surrounded by extensive arid uplands.	May to October	**No.** Suitable habitat for this species does not occur near the Project Site or areas of off-reservation impacts
Laterallus jamaicensis coturniculus California black rail	--/CT, FP/--	In coastal California during breeding season, presently found at Bodega Bay, Tomales Bay, Bolinas Lagoon, San Francisco Bay estuary, and Morro Bay. Overwhelming majority of birds in n. San Francisco Bay (San Pablo Bay) at relatively few sites. Occurs irregularly south to Baja California. Inland in small numbers in Salton Trough and on lower Colorado River from Bill Williams River (historically) to Laguna Dam.	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation. Uses sites with shallower water than other North American rails. Most breeding areas vegetated by fine-stemmed emergent plants, rushes, grasses, or sedges. Sites used in coastal California characterized by taller vegetation, greater coverage and height of alkali heath (*Frankenia grandifolia*).	All Year	**No.** Suitable habitat for this species does not occur near the Project Site or areas of off-reservation impacts
Riparia riparia Bank swallow	--/CT/--	About 50 to 60 colonies remain along the middle Sacramento River and 15 to 25 colonies occur along lower Feather River where the rivers meanders still in a mostly natural state. Other colonies persist along the central coast from Monterey to San Mateo counties, and northeastern California in Shasta, Siskiyou, Lassen, Plumas, and Modoc counties.	Colonial nester; nests primarily in riparian scrub, riparian woodland, and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	All year	**No.** Suitable habitat for this species does not occur near the Project Site or areas of off-reservation impacts

Scientific Name **Common Name**	**Federal / State / CNPS List**	**Distribution**	**Habitat Requirements**	**Period of Identification**	**Potential to Occur In Nearby Off-Reservation Habitat**
Vireo bellii pusillus Least Bell's vireo	FE/CE/--	Known to occur in Butte, Fresno, Imperial, Inyo, Kern, Los Angeles, Mariposa, Merced, Monterey, Orange, Riverside, Sacramento, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Stanislaus, Sutter, Tehama, Ventura, Yolo, and Yuba counties. However some counties only have one occurrence.	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite. Found in riparian forest, riparian scrub, and riparian woodland.	All Year	**No.** Suitable habitat for this species does not occur near the Project Site or areas of off-reservation impacts
Agelaius tricolor Tricolored blackbird	--/CT, CSC/--	California and Baja California, Mexico.	Nests in dense thickets of cattails, tules, willow, blackberry, wild rose, and other tall herbs near fresh water.	All Year	**Yes.** There is potential for this species to occur in nearby off-reservation habitat.
Fish					
Hypomesus transpacificus Delta smelt	FT/CT/--	Occurs almost exclusively in the Sacramento-San Joaquin estuary, from the Suisun Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties. May also occur in the San Francisco Bay.	Estuarine waters. Majority of life span is spent within the freshwater outskirts of the mixing zone (saltwater-freshwater interface) within the Delta.	Consult Agency	**No.** Suitable habitat for this species does not occur near the Project Site or areas of off-reservation impacts.
Oncorhynchus tshawytscha pop. 6 Chinook salmon - Central Valley Spring Run Evolutionary Significant Unit (ESU)	FT/CT/--	Central Valley spring-run Chinook Salmon ESU includes all naturally spawned populations of spring-run Chinook salmon in the Sacramento River and its tributaries in California, including Churn Creek.	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, require cold water and gravelly streambed.	Consult Agency	**No.** Suitable habitat for this species does not occur near the Project Site or immediate areas of off-reservation impacts.

Scientific Name **Common Name**	**Federal / State / CNPS List**	**Distribution**	**Habitat Requirements**	**Period of Identification**	**Potential to Occur In Nearby Off-Reservation Habitat**
Oncorhynchus mykiss irideus pop. 11 Steelhead-Central Valley Distinct Population Segment	FT/--/--	Spawn in the Sacramento and San Joaquin rivers and tributaries before migrating to the Delta and Bay Area.	Found in cool, clear, fast-flowing permanent streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning: streams with pool and riffle complexes. For successful breeding, require cold water and gravelly streambed.	Consult Agency	**No.** Suitable habitat for this species does not occur near the Project Site or areas of off-reservation impacts.
Invertebrates					
Branchinecta conservatio Conservancy fairy shrimp	FE/--/--	This species is currently known from several disjunct populations: The Vina Plains in Tehama County, south of Chico in Butte County, the Jepson Prairie Preserve and surrounding area in Solano County, Sacramento National Wildlife Refuge in Glenn County, Mapes Ranch west of Modesto, San Luis National Wildlife Refuge and the Haystack Mountain/Yosemite Lake area in Merced County, and two locations on the Los Padres National Forest in Ventura County.	Endemic to vernal pools in the northern two-thirds of the Central Valley.	December to May	**No.** Suitable habitat for this species does not occur near the Project Site or areas of off-reservation impacts.

Scientific Name **Common Name**	**Federal / State / CNPS List**	**Distribution**	**Habitat Requirements**	**Period of Identification**	**Potential to Occur In Nearby Off-Reservation Habitat**
Branchinecta lynchi Vernal pool fairy shrimp	FT/--/--	Known from 32 populations extending from Shasta County through most of the length of the Central Valley to Tulare County, and along the central Coast Range from northern Solano County to Pinnacles in San Benito County. Five additional, disjunctive populations exist near Soda Lake in San Luis Obispo County, in the mountain grasslands of northern Santa Barbara County, on the Santa Rosa Plateau in Riverside County, and near Rancho California in Riverside County.	Vernal pools in the Central Valley, coast ranges, and a limited number of sites in the Transverse Ranges and Riverside County, California.	December to May	**No.** Suitable habitat for this species does not occur near the Project Site or areas of off-reservation impacts.
Desmocerus californicus dimorpha Valley elderberry longhorn beetle	FT/--/--	Restricted to the Central Valley from Redding to Bakersfield. Known from Amador, Butte, Calaveras, Colusa, El Dorado, Fresno, Glenn, Kern, Madera, Mariposa, Merced, Napa, Placer, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba Counties. Elevations range from 0 to 762 meters.	Riparian forest communities. Exclusive host plant is elderberry (*Sambucus* species), which must have stems ≥ 1-inch diameter for the beetle.	Year Round	**No.** Suitable habitat for this species does not occur near the Project Site or areas of off-reservation impacts.
Lepidurus packardi Vernal pool tadpole shrimp	FE/--/--	Known from 18 populations in the Central Valley, ranging from east of Redding in Shasta County south to the San Luis National Wildlife Refuge in Merced County; also known from a single vernal pool complex on the San Francisco Bay National Wildlife Refuge in Fremont.	Life cycle within vernal pools and valley foothill grassland swales.	December to May	**No.** Suitable habitat for this species does not occur near the Project Site or areas of off-reservation impacts.

Scientific Name Common Name	Federal / State / CNPS List	Distribution	Habitat Requirements	Period of Identification	Potential to Occur In Nearby Off-Reservation Habitat
Reptiles					
Thamnophis gigas Giant garter snake	FT/CT/--	Endemic to the San Joaquin and Sacramento Valley floors. Known from Butte, Colusa, Contra Costa, Fresno, Glenn, Kern, Madera, Merced, Sacramento, San Joaquin, Solano, Sutter, Yolo, and Yuba Counties.	Inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low-gradient streams, and adjacent uplands. Requires adequate water during its active season (early spring through mid-fall) to provide food and cover; emergent, herbaceous wetland vegetation for foraging and cover; grassy banks and openings in waterside vegetation for basking; and higher elevation uplands for cover and refuge from flood waters during its dormant season (winter). Inhabits small mammal burrows and other soil crevices with sunny exposure along south- and west-facing slopes, above prevailing flood elevations when dormant.	March to October	**Yes.** There is potential for this species to occur in nearby off-reservation habitat.

STATUS CODES

FEDERAL: United States Fish and Wildlife Service
FE Federally Endangered
FT Federally Threatened

STATE: California Department of Fish and Wildlife
CE California Listed Endangered
CT California Listed Threatened
CSC California Species of Special Concern
FP California Fully Protected Species

CNPS: California Native Plant Society (California Rare Plant Rank)
1A Plants Presumed Extinct in California
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

Source: CDFW, 2021; USFWS, 2021; CNPS, 2021

Special-Status Amphibians

California red-legged frog (*Rana draytonii*)

Federal Status – Threatened
State Status – Species of Special Concern

California red-legged frog (CRLF) requires a variety of habitat elements, with aquatic breeding areas embedded within a matrix of riparian and upland dispersal habitats. Breeding sites occur in aquatic habitats, including pools and backwaters within streams and creeks, ponds, marshes, springs, sag ponds, dune ponds, and lagoons. CRLF also breed in artificial impoundments, including stock ponds. The breeding period is from November to March. During periods of wet weather, starting with the first rains of fall, some individuals may make overland excursions through upland habitats. Most of these overland movements occur at night. CRLF may move distances up to one mile throughout a wet season. CRLF rest and forage in riparian vegetation (USFWS, 2002). CRLF disperse from their breeding habitat to forage and seek summer habitat if water is not available. Summer habitats include spaces under boulders or rocks and organic debris, such as downed trees or logs; industrial debris; and agricultural features, such as drains, watering troughs, abandoned sheds, or hay-ricks (USFWS, 2002). CRLF requires 11 to 30 weeks of permanent water for larval development. Habitat exists for this species in the wetland areas associated with Kimball Creek and along the irrigation canal.

Special-Status Birds

Swainson's hawk (*Buteo swainsoni*)

Federal Status – None
State Status – Threatened

Swainson's hawks arrive to their breeding grounds in the Central Valley in early March. They often nest peripherally to valley riparian systems and utilize trees in agricultural fields. Valley oak, Fremont cottonwood, walnut, and large willow trees ranging in height from 41 to 82 feet are the most commonly used nest trees in the Central Valley. Eggs are laid from mid- to late April and are incubated into mid-May when young begin to hatch. Young remain near the nest and depend on the adults for approximately four weeks after fledging until they permanently leave the breeding territory (CDFW, 1994). Nesting typically occurs from March 1 to August 15.

Swainson's hawks feed primarily on small mammals, birds, and insects. Typical foraging habitat includes annual grasslands, alfalfa, and other dry farm crops that provide suitable habitat for small mammals. Suitable foraging habitat exists off-reservation in the agricultural fields surrounding the Project Site. Foraging habitat near nesting sites is critical for the success of fledglings. The proposed project construction will all occur onsite for the project itself. Activities on the entire site have been fully mitigated for impacts to the Swainson's hawk prior to the construction of the Resort and existing parking lots through the purchase of credits at an approved Mitigation Bank.

Tricolored Blackbird (*Agelaius tricolor*)

Federal Status – None
State Status – Threatened

The tricolored blackbird is largely found in the Central Valley, extending into the south coast range from Monterey County south, but populations are also documented from the Peninsular Range near San

Diego County and extreme northern California. The TRBL forms the largest breeding colonies of any North American land bird, with a primary breeding season extending from March through early August, although they have been observed to breed from September through November. The largest breeding colonies are associated with freshwater emergent wetlands in rice growing communities. However, they are tied to areas with open accessible water, protected nesting vegetation, and adequate foraging habitat within a few kilometers of their breeding colony. Typical nesting substrate consists of tule, cattail, willow, and blackberry, although they have been observed utilizing other species as well. During the winter tricolored blackbird form large mixed-flock with other blackbird species wherein they forage in agricultural fields and grasslands. Known from the Central Valley and surrounding foothills, throughout coastal and some inland localities in southern California, and scattered sites in Oregon, western Nevada, central Washington, and western coastal Baja California.

Special-Status Reptiles

Giant garter snake (*Thamnophis gigas*)

Federal Status – Threatened
State Status – Threatened

The giant garter snake is one of the largest garter snakes and can reach lengths of up to five feet. It is also one of the most aquatic garter snakes in California. The dorsal side is brownish with two alternating rows of well-separated small dark spots between stripes. The dorsal stripe, when evident, is yellowish and often with irregular edges. Ventral coloration is cream to olive color. Mating occurs in March-April with a clutch size of 10 to 46. They can inhabit agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands. The giant garter snake requires adequate water during its active season (early spring through mid-fall) to provide food and cover; emergent, herbaceous wetland vegetation for foraging and cover; grassy banks and openings in waterside vegetation for basking; and higher elevation uplands for cover and refuge from flood waters during its dormant season (winter). They inhabit small mammal burrows and other soil crevices with sunny exposure along south- and west-facing slopes, above prevailing flood elevations, when dormant. The giant garter snake relies on small fish, tadpoles, and frogs as a primary diet and hunts primarily during morning and evening hours. Nighttime hours are spent in mammal burrows for cover and refuge (Stebbins, 2003). The historic distribution is from the Sacramento and San Joaquin Valleys as far north as Butte County down to Kern County. In a Biological Opinion (BO), dated 2005, the USFWS has determined that there is suitable habitat for this species along the irrigation canal adjacent to the property to the south and the adjacent agricultural fields (USFWS, 2005). This BO remains in effect and will be applied during the on-site construction activities.

Wetland Habitats and Waters of the U.S.

The USFWS National Wetlands Inventory (NWI) identifies a palustrine emergent wetland 0.25 miles to the north of the Project Site. This wetland is associated with Kimball Creek and drains into it. An irrigation canal runs adjacent to the southern boundary of the Project Site and is used for conveying water to local farmers. The Project Site is located in the lower Feather River watershed. Kimball Creek flows approximately to the 1,320 feet north of the Project Site. The streamflow varies seasonally, with peak flows occurring during the winter rainy season after storm events and lowest flows occurring during the dry season. Refer to **Section 3.7**, **Hydrology and Water Quality**, for a detailed discussion of the hydrology in the vicinity of the Project Site.

Palustrine Emergent Wetlands

The NWI identified a palustrine wetland north of the Project Site, these wetlands are influenced by nontidal waters, and in this instance are impacted by the flow and drainage of Kimball Creek. This wetland extends throughout the undisturbed influence of Kimball Creek to the east of Forty Mile Rd and the creek becomes more channelized to the west. This is a seasonally flooded wetland experiencing inundation during the winter and an absence of surface waters during the growing season. Persistent emergent vegetation such as cattails, rushes, and Himalayan blackberry are present. This feature is well defined through aerial imagery and there is clear avoidance in the regional agricultural activity. The topography of the drainage is relatively flat with a slight east to west slope following the surrounding off reservation area. A roadside ditch along Forty Mile Rd flows from the south to north into this wetland and thence Kimball Creek.

Seasonal Wetlands

Seasonal wetlands are present directly adjacent along the south of the Project Site and are associated with the irrigation ditches. These wetlands serve as an inundation spillover area and provide habitat for the special status species, the giant garter snake (USFWS, 2005). These wetlands share similar characteristics to the palustrine emergent wetlands described above but are inundated by the flow of water from the irrigation ditches as opposed to natural inflow.

Irrigation Ditches

Manmade irrigation ditches are essentially trenches that were excavated within uplands to transport water to agricultural fields throughout the region. An irrigation ditch is found to the south of the Project Site and fosters seasonal wetlands that serve as a spillover area (USFWS, 2005). These features are straight, linear, and uniformly constructed and are found along roadways and other human-made features in the off-reservation vicinity of the Project Site. In the absence of a significant nexus, the irrigation ditches are non-jurisdictional and are therefore not subject to regulation under the Clean Water Act. The USFWS (2005) Biological Opinion on the Project Site lists the irrigation canal, and the seasonal wetlands upland habitat the surround it as appropriate habitat for the giant garter snake.

Agricultural Fields: Flooded Rice Fields

Flooded rice fields in the vicinity of the Project Site function as designed artificial wetlands are used by many waterfowl as part of the Pacific Flyway. This has become an agricultural practice of many farmers in the region and continues to grow in popularity. This flooding practice is conducted during the winter months from November to March. These fields are not protected as waters of the United States as wetlands or other water features.

Resident or Migratory Wildlife Corridors

The wetland habitat associated with Kimball Creek to the north provides the only off-reservation wildlife corridor in the off-reservation vicinity of the Project Site. This corridor allows for the movement of a variety of nesting bird species.

Protected Trees

There are no protected trees off-reservation and within the vicinity of the Proposed Project that would be impacted by the construction or operation of the project.

3.4.3 IMPACT ANALYSIS

Significance Criteria

The following criteria are established by the Environmental Impact Analysis Checklist attached to the Procedures as Appendix B (Checklist) (**Appendix A**) and are used in this section to evaluate the potential off-reservation environmental impacts of the Proposed Project on off-reservation biological resources. Such an impact is considered significant if it would:

- 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 CDFW or USFWS;
- Have a substantial adverse effect on any off-reservation riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected off-reservation wetlands as defined by Section 404 of the CWA;
- 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; or
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

Methodology

Proposed Project Site and Vicinity

Assessment of existing off-reservation biological resources was based upon past biological field surveys conducted in 2007 (AES, 2007) to document habitat types and determine the potential for occurrence of special-status species. All visible fauna and flora found in these areas were noted and identified to the lowest possible taxon (level of identification and classification). The areas of off-reservation impacts associated with the Proposed Project were also assessed for the presence of jurisdictional water features (Waters of the U.S.), isolated wetlands, and other biologically sensitive features. The off-reservation impact assessment was based on information gathered from field surveys and described in the Environmental Setting (**Section 3.4.2**), the Project Description (**Section 2.0**), and the significance criteria presented above.

Impact 3.4.1: The Proposed Project could potentially have a substantial adverse impact, either directly or through habitat modifications, on any species identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS.

California Red-Legged Frog: Suitable habitat exists for this species in the wetlands to the north of the reservation and along the irrigation ditch to the south. The construction of the Proposed Project, however, will not impact these areas. Additionally, impacts to off-reservation wetland habitat or upland habitat that would be impacted by construction runoff from the Proposed Project will be less than significant with the implementation of stormwater BMPs defined within the project SWPPP (**Mitigation Measure 3.7-1)** further described **in Section 3.7, Hydrology and Water Quality**.

Giant Garter Snake: Suitable habitat exists for this species along the irrigation ditch as well as the associated seasonal wetlands and upland habitat to the south of the Project Site (USFWS, 2005). The

construction of the Proposed Project, however, will not impact these areas. The terms of the BO will continue to apply to the on-site activities. The terms of this existing BO will continue be followed during construction activities to ensure avoidance of direct on-site impacts, these measures have been defined in **Mitigation Measure 3.4-1**. Additionally, impacts to off-reservation wetland habitat or upland habitat that would be impacted by construction runoff generated by the Proposed Project will be less than significant with the implementation of stormwater BMPs defined within the project SWPPP (**Mitigation Measure 3.7-1**) described in **Section 3.7, Hydrology and Water Quality**. The actions taken in that mitigation measure would provide the appropriate buffers and protections to avoid a take of the species as illustrated in the BO (USFWS, 2005).

Nesting and Migratory Birds: Potential foraging and nesting habitat for migratory bird and raptor species, including Swainson's hawk and tricolored blackbird, is present in the off-reservation vicinity of the Project Site. The Proposed Project would not affect off-reservation foraging habitat; however, construction activities such as building, grading, and earth moving involve increased machinery, noise levels, and activity that have the potential to adversely affect off-reservation nesting migratory bird species. In order to mitigate for impacts to foraging habitat on the reservation for Swainson's hawk, the tribe purchased 15 acres of foraging habitat Mitigation Values in the Best Slough Preserve in Yuba County, CA in 2018 (Wildlands, 2018). **Mitigation Measure 3.4-2** has been recommended to address potential impacts on nesting and migratory birds if they nest adjacent to the Project Site before the start of such construction. The mitigation requires a preconstruction survey for nesting birds and establishing an avoidance buffer during construction activities for any identified active nests. After mitigation, potential impacts on nesting birds from construction activities would be reduced to a less-than-significant level.

Impact 3.4.2: The Proposed Project would not have a substantial adverse effect on any off-reservation riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.

Construction and operation of the Proposed Project would not occur on or adjacent to any riparian habitats or other sensitive natural communities identified in local or regional plans, policies, or regulations or by the CDFW or USFWS. No off-reservation riparian habitats or other sensitive vegetation communities would be impacted by construction or operation of the Proposed Project. No impact would occur.

Impact 3.4.3: The Proposed Project would not have a substantial adverse effect on federally protected off-reservation wetlands as defined by Section 404 of the CWA.

Due to the nature of the construction, which would require limited earthwork and grading, and the implementation of a Stormwater Pollution Prevention Plan, as discussed in **Section 3.7**, **Hydrology and Water Quality**, grading and other construction and operations on the Project Site would not affect any off-site jurisdictional wetlands or waters of the U.S. This would be a less-than-significant impact.

Impact 3.4.4: The Proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The Proposed Project does not involve components that would interfere with the movement of native resident or migratory fish or wildlife species. There are no wildlife corridors within proximity to the Proposed Project. There are no native wildlife nursery sites in proximity to the Proposed Project. The movement of native resident or migratory fish or wildlife species, resident or migratory wildlife corridors, and native wildlife nursery sites would not be impacted as a result of construction or operation of the Proposed Project. There would be no impact.

Impact 3.4.5: The Proposed Project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

As is discussed in **Section 3.4.1**, no HCP, NCCP, or other approved local, regional, or state HCPs have been adopted that are applicable to the Proposed Project. No biological resources protected by the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP would be impacted as a result of construction or operation of the Proposed Project. No impact would occur.

3.4.4 MITIGATION MEASURES

The following mitigation measures are recommended to mitigate specific impacts identified in this TEIR:

3.4-1 Construction activities within the identified habitat for giant garter snake shall be avoided as identified in BO. The USFWS guidelines for giant garter snake avoidance and minimization will be followed.

Construction personnel shall participate in a USFWS approved worker environmental awareness program. Under this program, workers shall be informed about the presence of giant garter snakes and habitat associated with the species and that unlawful take of the animal or destruction of its habitat is a violation of the Act. Prior to construction activities, a qualified biologist approved by the Service shall instruct all construction personnel about: (1) the life history of the giant garter snake; (2) the importance of irrigation canals, marshes/wetlands, and seasonally flooded areas, such as rice fields, to the giant garter snake; (3) sensitive areas, detailing limits of the construction area, showing workers the designated buffers, and explaining why they must stay out of the buffers. Proof of this instruction shall be submitted to the Sacramento Fish and Wildlife Office.

No more than 24-hours prior to start of construction activities (site preparation and/or grading), the southern portion of the project area adjacent to the ditch shall be surveyed for the presence of giant garter snake. If construction activities stop on the site for a period of two weeks or more, a new giant garter snake survey should be completed no more than 24-hours prior to the re-start of construction activities.

A qualified biologist shall conduct monitoring for giant garter snake during construction within the identified giant garter snake boundary area. If a snake is encountered during construction

activities, the monitoring biologist shall have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake will not be harmed. Giant garter snakes encountered during construction activities should be allowed to move away from construction activities on their own. Capture and relocation of trapped or injured individuals can only be attempted by personnel or individuals with current USFWS recovery permits pursuant to section 10(a)1(A) of the Act.

A qualified biologist shall be available for monitoring for giant garter snakes throughout the duration of construction.

Establish fencing prior to construction to demarcate the construction area and prevent encroachment of construction personnel and equipment into adjacent habitats for sensitive species.

The USFWS recommends that plastic mono-filament netting (erosion control matting) not be used for erosion control. Snakes may become entangled in it. Acceptable substitutes include coconut-coir matting or tackified hydroseeding.

Pre-construction surveys for giant garter snake shall be completed by a qualified biologist along the South Yuba Water District irrigation ditch to follow the USFWS guidelines.

3.4-2 If feasible, construction activities related to the Proposed Project, including movement of heavy equipment and grading, shall be commence outside of the nesting period (generally between March and mid-September). If construction activities cannot be avoided during the nesting period, a qualified biologist shall conduct preconstruction surveys for raptor nests within 500 feet of the area of disturbance. Impacts to potential foraging habitat for Swainson's hawk shall be mitigated according to the guidelines identified in the California Department of Fish and Wildlife's *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California (1994)*.

The surveys shall be conducted no more than 5 days before the beginning of construction. If no active bird nests are identified, no further mitigation is necessary. Surveys for the Swainson's Hawks will include a survey known raptor nesting sites within 0.5 miles of the disturbed area, as land access allows.

If active bird nests are identified, construction activities within 500 feet, or another distance as determined by a qualified biologist based on the identified species, shall be postponed until after the nesting season, or until after a qualified biologist has determined that the young have fledged and are independent of the nest site. No known active nests shall be disturbed without a permit or other authorization from the USFWS and/or CDFW.

3.5 GEOLOGY AND SOILS

This section discusses the off-reservation environment associated with geological features, discusses potential impacts of the Proposed Project on off-reservation geology and soils resources, and recommends mitigation measures to reduce any potentially significant off-reservation impacts to geological features and soils.

3.5.1 REGULATORY SETTING

Federal

National Earthquake Hazards Reduction Program

The Earthquake Hazards Reduction Act of 1977 (Public Law 95-124, 42 U.S. Code 7701 et seq.), as amended in 2004 (Public Laws 101-614, 105-47, 106-503, and 108-360), established the National Earthquake Hazards Reduction Program. This program was designed to "develop effective measures for earthquake hazards reduction" and "improve the understanding of earthquakes and their effects on communities, buildings, structures, and lifelines" (Federal Emergency Management Agency, 2004).

State and Local

The Project Site is located entirely on trust lands and is not subject to state or local controls concerning geology, soils, and mineral resources. However, such controls apply to off-reservation land in the vicinity of the Project Site.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act), signed into law December 1972, requires the delineation of zones along active and potentially active faults in California. The California Geological Survey (CGS) defines an "active" fault as one that exhibits evidence of activity during the last 11,000 years. Faults that exhibit evidence of Quaternary activity (within the last 1.6 million years) are considered to be "potentially active." The purpose of the Alquist-Priolo Act is to regulate off-reservation development on or near fault traces to reduce the hazard of fault rupture and to prohibit the location of most off-reservation structures for human occupancy across these traces. Fault zones defined by the Alquist-Priolo Act are areas around active faults, averaging approximately 0.25 miles wide, within which cities and counties having jurisdiction must regulate certain development projects (CGS, 2007).

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was enacted in 1991 to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure and from other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within the portions of these zones over which they have jurisdiction. Before a development permit is granted by a city, county, or other local permitting agency for a site within a seismic hazard zone, a geotechnical investigation of the site must be conducted and appropriate mitigation measures must be incorporated into the project design. Ground shaking probability maps have been developed in conjunction with the U.S. Geological Survey (USGS) for all of California.

California Building Code

The California Building Standards Commission, an independent commission within the State of California, produces the California Building Code (CBC) as part of Title 24, Part 2 of the California Code of Regulations. These building codes serve as the basis for the design and construction of off-reservation buildings in California. The CBC incorporates by reference the International Building Code with necessary California amendments. The CBC includes minimum standards for designing structures to withstand earthquakes. It also requires that project proponents identify soil and geologic conditions at the site. If conditions are identified that may interfere with the stability of the building, the CBC includes specific building requirements for accommodating those conditions. The Procedures require the Tribe to adopt, and the Tribe has adopted, a tribal ordinance that requires that the construction of the Proposed Project meet or exceed the requirements of the CBC, including those relating to earthquake design features and soil and geologic conditions.

Yuba County 2030 General Plan

The *Yuba County 2030 General Plan* (General Plan), adopted in 2011, is the comprehensive guiding document for development and conservation in the unincorporated areas of the County, including the properties in the vicinity of the Project Site. The General Plan does not apply to trust land on which the Project Site would be located or to the Proposed Project itself. Relevant goals and policies in the General Plan that are relevant to the off-reservation geologic and soils conditions and mineral resources in the vicinity of the Project Site are included in the following list:

Public Health and Safety Element

Goal HS3 Preserve, protect, and improve the quality of regional water supplies.

Policy HS3.8 New developments in areas with moderate, severe, and very severe erosion potential shall provide technical documentation, to the satisfaction of the County, that adequate measures have been taken in site planning, design, and/or mitigation to avoid erosion and sediment loss.

Goal HS7 Protect the community from the harmful effects of hazards and hazardous materials.

Policy HS7.3 The County will collaborate with appropriate federal, state, and regional agencies in an effort to identify and remediate soils and groundwater contaminated with toxic materials and to identify and eliminate sources contributing to such contamination.

Goal HS8 Reduce risk to people and property from geologic hazards and soil limitations.

Policy HS8.1 Development projects shall implement applicable state and local building code requirements, including structural and seismic safety measures, in order to reduce risks associated with seismic events and unstable or expansive soils.

Policy HS8.2 New developments that could be adversely affected by geological and/or soil conditions shall include project features that minimize these risks.

Policy HS8.4 Grading permits generally require submittal of grading plans and drainage study for review and approval by the Community Development and Services Agency, and where requested, a revegetation and winterization plan, and geotechnical investigation report.

Policy HS8.6 Project applicants may be required to show evidence of coverage, or application for coverage, under an NPDES general construction permit and a Storm Water Pollution Prevention Plan (SWPPP) with a State issued W.D.I.D. number, if applicable. Grading activities shall be located and designed to avoid contributing to the violation of provisions of any applicable NPDES stormwater discharge permit.

Policy HS8.7 Grading activities shall be designed, per County standards, to avoid obstructing or impeding the natural flow of stormwaters, causing accelerated erosion, or aggravating any existing flooding condition.

Policy HS8.9 Grading activity and land disturbance shall be conducted such that the smallest practicable area of erodible land is exposed at any one time.

Policy HS8.10 Grading activities shall preserve natural features, including vegetation, terrain, watercourses and similar resources, wherever feasible.

Policy HS8.14 New developments that would involve earth disturbance of areas with slopes exceeding 5 percent shall prepare and implement an erosion control plan, subject to County approval.

3.5.2 ENVIRONMENTAL SETTING

Regional Geology

The Resort and surrounding off-reservation lands are located in the northwestern section of the Central Valley geomorphic province (CSUN, 2021). The Project Site is located in the Great Central Valley Geomorphic Province within the Central Valley of California. The Central Valley is an alluvial plain between the Coast Ranges and Sierra Nevada, and is drained by the Sacramento and San Joaquin rivers, which join and enter into the San Francisco Bay (CSUN, 2021). The eastern border of the Central Valley is defined by its west-sloping Sierran bedrock surface, which continues westward beneath alluvium and older sediments. The western border of the Central Valley is underlain by east-dipping Cretaceous and Cenozoic strata that form a deeply buried synclinal trough. The Project Site is located within the Sacramento Valley plain which lies in the northernmost region of the Central Valley. The northern part of the Sacramento Valley plain, near the Project Site, is interrupted by the Sutter Buttes, which stand at about 2,000 feet high (Department of Water Resources, 2014).

Topography

The Resort is located within the Lower Feather River watershed in the Sacramento Valley (Yuba County, 2011a). The Sacramento Valley is long, relatively flat, and bordered by low, steep mountains and sharp, deep canyons. The terrain of the Sacramento Valley consists primarily of flat grasslands and agricultural fields.

The Project Site consists of previously graded and developed areas containing the existing Resort, wastewater treatment facilities, and associated parking areas. The Project Site is primarily flat and is situated approximately 70 feet above mean sea level.

Topography surrounding the Project Site includes the graded and developed areas associated with State Route 65 to the northeast and Forty Mile Rd to the west with flat agricultural developments beyond, hilly open areas to the far north, and rural residential and agricultural areas bordering on all sides.

Soils

The Great Central Valley contains valuable soil resources supporting a variety of agricultural uses that are vital components of the Yuba County economy. Protection of the County's off-reservation soil resources is an important aspect of the General Plan (Yuba County, 2011a). Soil survey reports for the Project Site and surrounding off-reservation areas are available online through the Natural Resources Conservation Service (NRCS), a sub-unit of the U.S. Department of Agriculture. Each NRCS survey map illustrates the various type and location of soil units and provides a summary of major physical characteristics with recommendations based on the soil characteristics.

Soils mapped on the Project Site and surrounding off-reservation lands consist entirely of well-drained San Joaquin loam, which are associated with the flat agricultural topography that characterizes much of the region (NRCS, 2021). As shown in **Figure 3.5-1**, the Project Site and off-reservation vicinity is comprised of San Joaquin loam and Conejo loam. San Joaquin type of soil occurs in low-lying valleys and is formed from a parent material of mixed alluvium (NRCS, 2021). It has a depth to water table of greater than 80 inches and is not subject to flooding or ponding. Conejo loam consist of very deep and well drained soils that formed in alluvium. Conejo loam generally exist in 0 to 2 percent slopes and are subject to occasional flooding (NRCS, 2006).

Soil Erosion

Soil erosion is the removal of soil materials from the ground surface and the transportation of those soil materials to a remote location where they are deposited. Mechanisms of soil erosion include natural phenomena, such as stormwater runoff and wind, and human activities, such as changes in drainage patterns, removal of vegetation, and physical disturbance from construction. Factors that influence soil erosion include physical properties of the soil, topography (slope), and the quantity and intensity of rainfall. Erosion is discussed more thoroughly in **Section 3.7**, **Hydrology and Water Quality**.

Seismicity

As noted previously, the Project Site is located in the Central Valley of California. The Central Valley, like most of California, is a seismically active region, although it has a lower earthquake risk than most other areas of the state (Yuba County, 2011).

There are no Alquist-Priolo Earthquake Fault Zones located on or near the Project Site. Earthquake Fault Zones are regulatory zones around active faults. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The Alquist-Priolo Earthquake Fault Zoning Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Alquist-Priolo Act defines active faults as those that have shown seismic activity during approximately the past 11,000 years, while potentially active faults are those that have shown activity within the Quaternary period, or the past 1.8 million years (CGS, 2019). Yuba County includes primarily inactive faults, such as the Foothills Fault

System and the Willows Fault Zone. The nearest fault to the Project Site is the Willows Fault Zone, located approximately 10.4 miles west of the Projects Site. The Foothills Fault System, which includes the Spencerville fault and the Swain Ravine fault, are located approximately 13 miles east of the Project Site and run in a north/south direction through the center of the County (**Figure 3.5-2**). The Spencerville fault and the Swain Ravine fault had recognized seismic activity within the late Quaternary and Quaternary period, respectively, and are considered potentially active. Known seismic activity in regards to the Willows Fault Zone dates back to the pre-Quaternary period and is considered inactive.

Geologic Hazards

Shaking Intensity

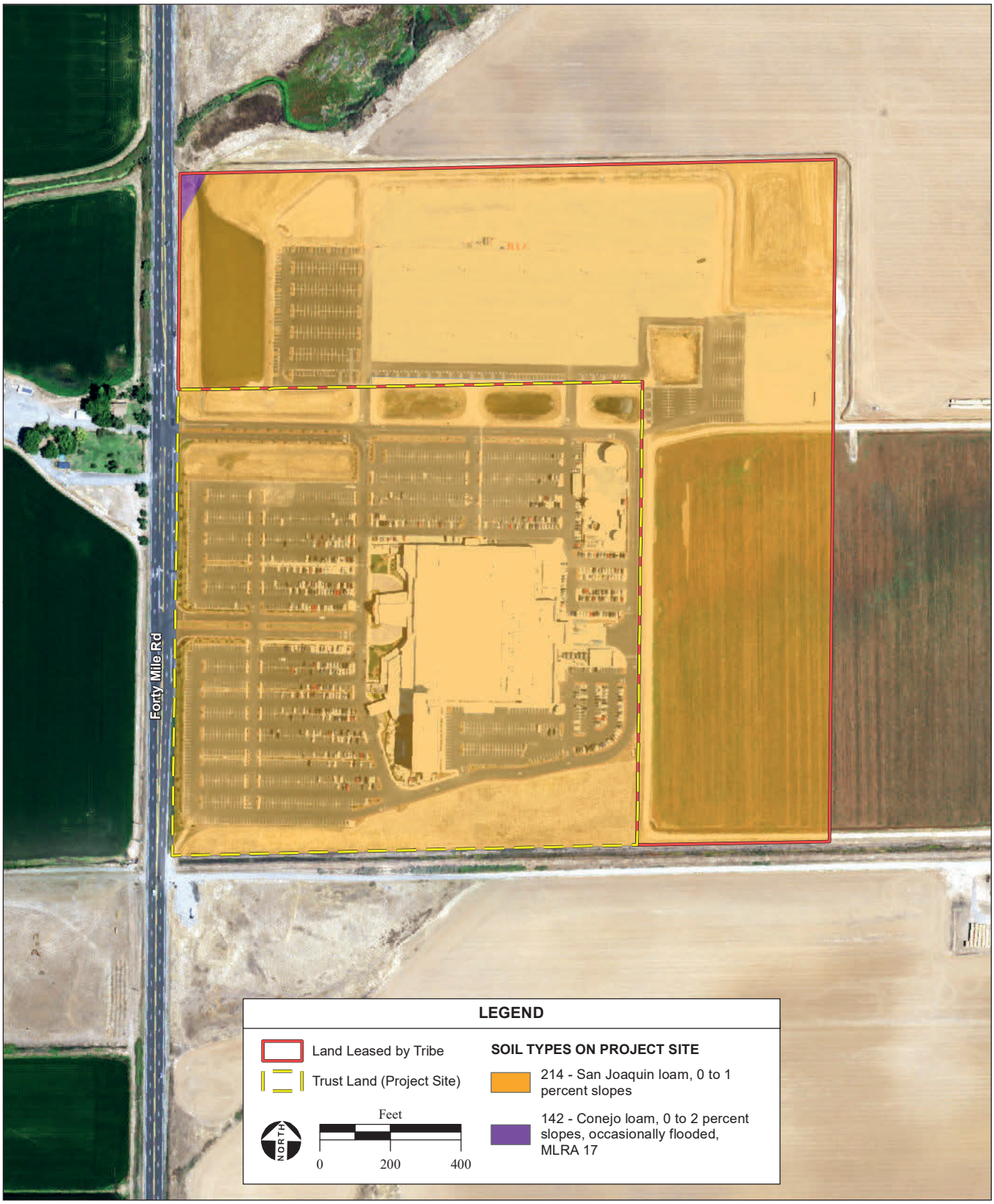
The CGS creates models of seismic hazard based on the physical and mechanical properties of the Earth's crust. Based on these models, the CGS determines the peak horizontal ground acceleration, which is the fastest measured change in speed for a particle at ground level. When an earthquake occurs, the forces caused by the shaking are measured as percent *g*, where *g* is the acceleration due to gravity, or 9.8 meters per second squared (CGS, 2016; USGS, 1996). Shaking intensity at a particular site can vary depending on the overall magnitude of the earthquake, the distance from the epicenter, and the type of geologic material.

The Modified Mercalli Intensity (MMI) scale is commonly used to measure earthquake effects due to ground shaking. MMI values range from I (not felt) to XII (total destruction) (**Table 3.5-1**). MMI values ranging from IV to X could cause moderate to significant structural damage. **Table 3.5-1** represents the estimated overall level of damage that would occur for various MMI levels (CGS, 2002). According to the Yuba County General Plan (2011a), the County is within an area "experiencing relatively low seismic activity." The CGS (formerly the California Division of Mines and Geology) Maximum Expectable Earthquake Intensity Map includes the Project Site within the low Severity Zone.

According to the Probabilistic Seismic Hazard Assessment for the State of California, the County, including the Project Site, is not believed to have experienced earthquake-induced ground shaking of MMI VII or greater between 1800 and 1996 (Yuba, 2001b). Typical effects of ground shaking intensity VII include moderate structural damage to ordinary buildings, but negligible damage to buildings of good design and construction; damage to the contents of buildings, such as overturning of heavy furniture, may cause breakage, injury and/or spills; and irrigation ditches and stream banks may be destabilized (CGS, 2002). The CGS indicates that the Project Site is not located in an area of California where ground shaking during historical earthquakes has exceeded MMI VII.

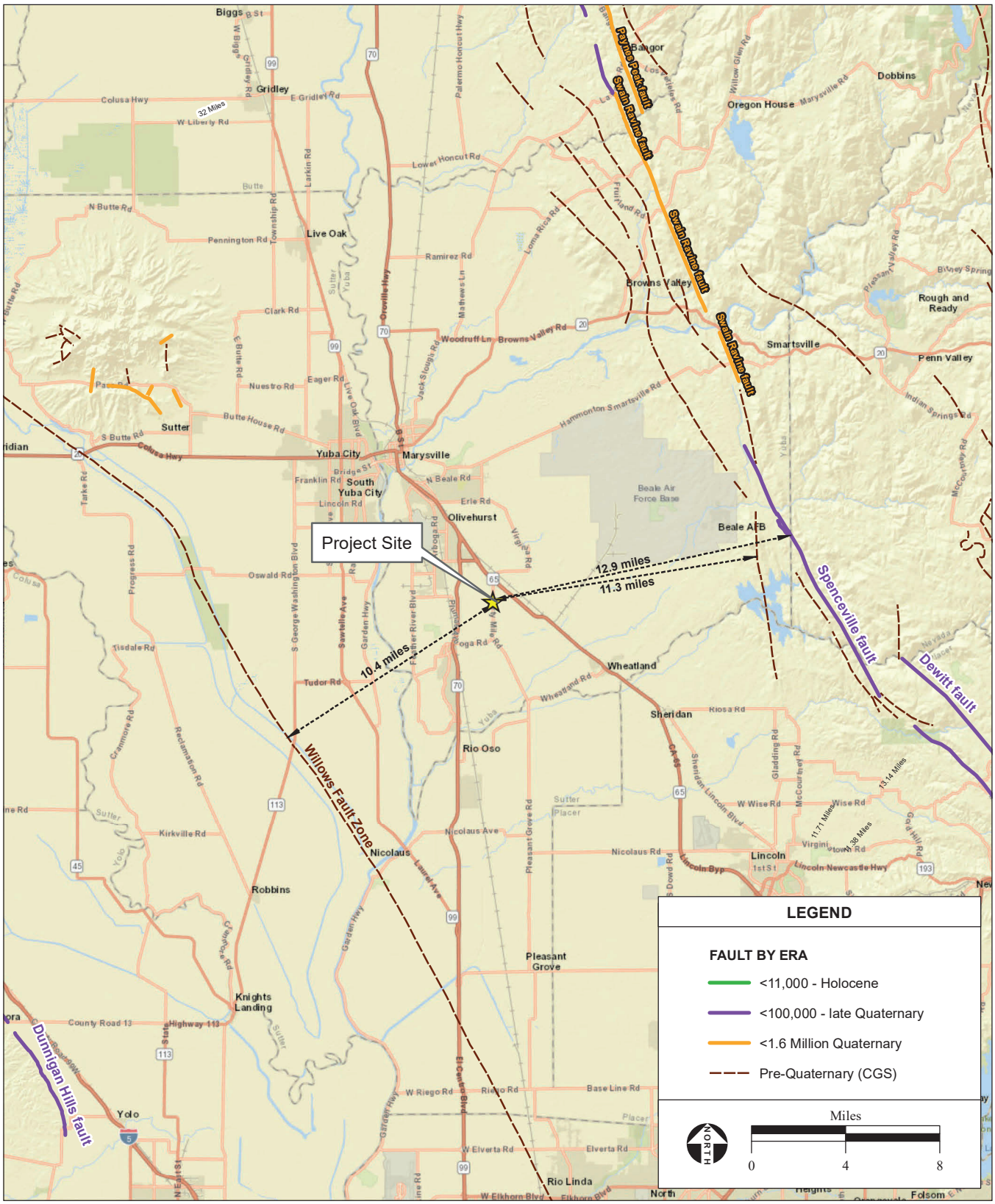
Surface Rupture

Surface rupture occurs when movement along both sides of a fault located deep underground produces enough energy to cause a fracture on the surface. The Project Site and surrounding off-reservation lands are not located within an Alquist-Priolo Earthquake Fault Zone or in a Seismic Hazard Zone as defined by the Seismic Hazards Mapping Act, discussed in **Section 3.5.1**. Therefore, surface rupture is not likely to occur on the Project Site.



SOURCE: USDA NRCS Soil Survey of Yuba County, updated 6/4/2020; NAIP aerial photograph, 7/10/2020; Yuba County GIS, 2020; AES, 2/24/2021

Figure 3.5-1
Soil Types



SOURCE: USGS Quaternary Fault and Fold Database of the U.S., 2018; California Geologic Survey, 2010; AES, 1/21/2021

Figure 3.5-2
Regional Fault Locations

Landslides

The primary cause of a landslide is a steep slope that becomes overburdened by weight; the point at which instability is reached is based on various factors, including saturation (by snowmelt or heavy rains) and seismic activity (USGS, 2021). Landslides can cause fatalities, damage highways, and affect structures that support fisheries, tourism, timber harvesting, mining, and energy production. In general, landslides are expected to occur most often on slopes that are steeper than 15 percent, in areas with a history of landslides, and areas underlain by certain geologic units. In Yuba County, landslides are expected to occur primarily in the central and eastern portions of the County where topographic relief and slopes are greater (Yuba County, 2011b).

The Project Site is comprised of mainly flat landscape and minimal change in elevation. The USGS National Landslides Hazards Map categorizes the Project Site and its immediate vicinity as an area of low to moderate landslide incidence, where less than 15 percent of the land has experienced active or historic landslides (USGS, 1982).

TABLE 3.5-1. MODIFIED MERCALLI INTENSITY SCALE

Intensity Value	Intensity Description	Average Peak Acceleration
I.	Not felt except by a very few persons under especially favorable circumstances.	< 0.0015*g*
II.	Felt only by a few persons at rest, especially on upper floors on buildings. Delicately suspended objects may swing.	< 0.0015*g*
III.	Felt quite noticeably indoors, especially on upper floors of buildings, but many persons do not recognize it as an earthquake. Standing cars may rock slightly. Vibration similar to the passing of a truck. Duration estimated.	< 0.0015*g*
IV.	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motorcars rocked noticeably.	0.015*g*-0.02*g*
V.	Felt by nearly everyone, many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.	0.03*g*-0.04*g*
VI.	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.	0.06*g*-0.07*g*
VII.	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving cars.	0.10*g*-0.15*g*
VIII.	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, and walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving cars disturbed.	0.25*g*-0.30*g*

Intensity Value	Intensity Description	Average Peak Acceleration
IX.	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	0.50*g*-0.55*g*
X.	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.	> 0.60*g*
XI.	Few, if any, masonry structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	> 0.60*g*
XII.	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	> 0.60*g*
Notes: *g* = gravity = 9.8 meters per second squared. Source: CGS, 2002.		

Liquefaction

When saturated with water and subjected to energy associated with the shaking intensity of a considerable-sized earthquake (MMI VIII and above), certain soils may lose their solid structure and act as liquids. Ground subject to liquefaction may sink or pull apart. Soils comprised of sand and sandy loams, in areas with high groundwater tables or rainfall, are subject to liquefaction during intense seismic shaking events. Foothill and mountain areas generally have a low potential for liquefaction (Yuba County, 2011b). Soils on the Project Site and surrounding lands are well drained, with a depth to water table of greater than 80 inches, and do not contain high quantities of sand (NRCS, 2021). Therefore, the Project Site is not subject to liquefaction.

3.5.3 IMPACT ANALYSIS

Significance Criteria

The following criteria are established by the Environmental Impact Analysis Checklist attached to the Procedures as Appendix B (Checklist) (**Appendix A**) and are used in this section to evaluate the potential off-reservation environmental impacts of the Proposed Project on off-reservation geology and soils. Such an impact is considered significant if it would:

- Expose off-reservation people or structures to substantial adverse effects, including the risk of loss, injury, or death involving 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;
- Expose off-reservation people or structures to substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking;
- Expose off-reservation people or structures to substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction;

- Expose off-reservation people or structures to substantial adverse effects, including the risk of loss, injury, or death involving landslides;
- Result in substantial off-reservation soil erosion or the loss of topsoil;

Methodology

Off-reservation impacts of the Proposed Project with respect to geology, soils, and mineral resources were analyzed based on existing soil types and topography of the Project Site and its vicinity, proximity of the Project Site to known faults, proposed changes to the Project Site and any changes to its vicinity, and estimates of how the Proposed Project would affect existing off-reservation geologic, soils, and mineral conditions and resources.

Impact 3.5.1: The Proposed Project would not expose off-reservation people or structures to substantial adverse effects caused by rupture of a known earthquake fault or other strong seismic ground shaking.

There are no Alquist-Priolo Earthquake Fault Zones located on or within the vicinity of the Project Site. Faults in Yuba County include primarily inactive faults, including the Willows Fault Zone and the Foothills Fault System. The nearest fault to the Project Site is the Willows Fault Zone, located approximately 10.4 miles west of the Projects Site. The Foothills Fault System, which includes the Spencerville fault and the Swain Ravine fault, are located approximately 13 miles east of the Project Site and run in a north/south direction through the center of the County (**Figure 3.5-2**). The Proposed Project would be confined to the trust lands and built in accordance with the Tribe's ordinance requiring that the construction of the Proposed Project meet or exceed the requirements of the CBC, including those relating to earthquake design features and soil and geological conditions (refer to **Section 3.5.1**). Therefore, implementation of the Proposed Project would not increase the exposure of off-reservation people or structures to adverse effects in the event of fault rupture or ground shaking. Any impact on off-reservation people or structures attributable to rupture of a known earthquake fault or other strong seismic ground shaking that would occur as a result of the Proposed Project would be less than significant.

Impact 3.5.2: The Proposed Project would not expose off-reservation people or structures to substantial adverse effects involving seismic-related ground failure, including liquefaction.

The soils on the Project Site are not subject to liquefaction. Additionally, although the Project Site is located in an area that may be subject to seismic ground shaking in the future, there are no mapped surface faults on the Project Site that would have the potential to rupture. Furthermore, although potential damage to people or structures from seismic ground shaking could occur, compliance with the CBC would require the seismic-design response spectrum to be established and incorporated into the design of all new structures. Any new structures and utilities would be designed to withstand seismic forces per CBC requirements. Therefore, these construction standards would minimize the seismic ground shaking effects on developed structures. The Proposed Project does not involve any off-reservation construction or activities that would be affected by seismic-related ground failure. No impact on off-reservation people or structures attributable to seismic-related ground failure, including liquefaction, would occur as a result of the Proposed Project.

Impact 3.5.3: The Proposed Project would not expose off-reservation people or structures to substantial adverse effects involving landslides.

The Proposed Project would be constructed on generally flat and paved ground with stable slopes, and would result in minor grading. As described in **Section 2.4.6**, grading activities during the construction of the Proposed Project would primarily consist of approximately 2,400 cubic yards of soil and a subsequent 3,900 cubic yards of fill and compaction, resulting in a net total of 1,400 cubic yards of fill associated with the Proposed Project. Fill materials needed for the construction of the Proposed Project (1,400 total cubic yards) will be transported by truck to the Project Site from an off-site location. Because on-site soils are stable and the Project Site is flat, all impacts as a result of earthwork activities, including excavation, fill, and earth building pad construction, would be minimal. Additionally, no slopes would be introduced as a result of the Proposed Project. Therefore, landslides would not result from the limited grading activities associated with construction of the Proposed Project. No impact on off-reservation people or structures attributable to landslides would occur as a result of the Proposed Project.

Impact 3.5.4: The Proposed Project could result in substantial off-reservation soil erosion or the loss of topsoil.

Construction of the Proposed Project would involve earth-moving activities such as grading, excavation, stockpiling of soil, installation of new facilities, and the use of heavy machinery and equipment. As discussed in **Section 2.1**, the Proposed Project would be constructed over existing paved areas, and any excavated soil would be disposed of on the trust lands through balanced cut and fill. Should there be any excess of cut soil, all additional soil would be properly disposed of offsite. These activities would create the potential for off-reservation impacts related to erosion by exposing soils stockpiled on the trust lands to erosion by stormwater. However, implementation of **Mitigation Measure 3.7-1**, which requires a SWPPP and temporary erosion control BMPs, would reduce impacts to off-reservation water and soil quality. Refer to Impact 3.7.1 in **Section 3.7**, **Hydrology and Water Quality**, for a detailed discussion of potential erosion impacts during construction. With implementation of **Mitigation Measure 3.7-1**, this impact would be less than significant.

3.6 HAZARDS AND HAZARDOUS MATERIALS

This section addresses the off-reservation environment associated with hazards and hazardous materials, discusses potential off-reservation impacts of the Proposed Project, and presents mitigation measures recommended to reduce any associated potentially significant off-reservation impacts to less-than-significant levels.

3.6.1 REGULATORY SETTING

3.6.1.1 Definition of Hazardous Material

For the purposes of this section's off-reservation environmental impact analysis, a material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. The California HSC § 25501 provides the following definition for "hazardous material:"

1. A substance or product for which the manufacturer or producer is required to prepare a safety data sheet pursuant to the Hazardous Substances Information and Training Act (Chapter 2.5 [commencing with § 6360] of Part 1 of Division 5 of the Labor Code) or pursuant to any applicable federal law or regulation.
2. A substance listed as a radioactive material in Appendix B of Part 30 (commencing with § 30.1) of Title 10 of the Code of Federal Regulations (CFR), as maintained and updated by the Nuclear Regulatory Commission.
3. A substance listed pursuant to Title 49 of the CFR.
4. A substance listed in § 339 of Title 8 of the CCR.

3.6.1.2 Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (USEPA) administers numerous statutes pertaining to human health and the environment at the federal level.

Resource Conservation and Recovery Act (RCRA)

The USEPA regulates the land disposal of certain hazardous materials through the Resource Conservation and Recovery Act (RCRA). RCRA authorizes the USEPA to control hazardous waste from generation to disposal, and provides a framework for managing non-hazardous wastes. The 1984 amendments to RCRA, known as the "Federal Hazardous and Solid Waste Amendments," require phasing out land disposal of hazardous waste. As amended in 1986, RCRA addresses potential problems associated with underground tanks storing petroleum and other hazardous substances.

Under RCRA, the USEPA regulates the activities of hazardous waste generators, transporters, and handlers (any individual who treats, stores, and/or disposes of a designated hazardous waste). RCRA further requires the tracking of hazardous waste from its generation to its final disposal through a process often referred to as the "cradle-to-grave" regulation. This "cradle-to-grave" regulation requires detailed documentation and record keeping for hazardous waste generators, transporters, and/or handlers to ensure proper accountability for violations of applicable regulations. Hazardous waste generators are divided into three categories based upon hazardous waste generation rates: Conditionally Exempt Small Quantity Generators, Small Quantity Generators, and Large Quantity

Generators. Each type of generator is subject to different regulations related to differences in the amount of hazardous waste generated.

Toxic Substances Control Act

The Toxic Substances Control Act of 1976 (TSCA) provides the USEPA with authority to implement reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances such as food, drugs, cosmetics, and pesticides are generally excluded from TSCA. TSCA addresses the production, importation, use, and disposal of specific chemicals, including polychlorinated biphenyls, asbestos, radon, and lead-based paint.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, imposed a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases (or threatened releases) of hazardous substances that may endanger public health or the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous substances sites; provided for liability of persons responsible for releases of hazardous substances at these sites; and established a trust fund to provide for cleanup of these sites when no responsible party could be identified. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

3.6.1.3 State and Local

The Project Site is located on federally owned trust land and is therefore not subject to the following state or local controls concerning hazardous materials/substances or wildland fires. However, such controls apply to off-reservation land in the vicinity of the Project Site.

California Environmental Protection Agency

The California Environmental Protection Agency (CalEPA) was created in 1991 to better coordinate state environmental programs, reduce administrative duplication, and address the most significant off-reservation environmental and health risks. CalEPA unifies the state's environmental authority under a single cabinet-level agency. CalEPA also implements federal regulations delegated to the state level by the USEPA. CalEPA oversees the following agencies: California Air Resources Board, California Integrated Waste Management Board, California Department of Pesticide Regulation, State Water Resources Control Board (SWRCB), California Department of Toxic Substances Control (DTSC), and Office of Emergency Services.

DTSC regulates the off-reservation generation, transportation, treatment, storage, and disposal of hazardous waste under RCRA and the State Hazardous Waste Control Law. Both laws impose "cradle-to-grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment.

California Health and Safety Code

Division 20, Chapter 6.95 of the California Health and Safety Code requires off-reservation businesses that generate, store, or transport hazardous materials to prepare and maintain a Hazardous Materials Business Plan (HMBP). DTSC delegates enforcement of HMBP requirements to local environmental health departments. These requirements do not apply to the trust land on which the Proposed Project would be located, or to the Proposed Project itself.

Hazardous Waste Control Act

The Hazardous Waste Control Act (HWCA) of 1972 established the basis for the California Hazardous Waste Control Program within the California Department of Public Health. Included in the HWCA are definitions for what is considered to be a "hazardous waste;" the definition of "hazardous;" and what is required for appropriate handling, processing, and disposal of hazardous and extremely hazardous waste in areas over which the state has jurisdiction in a manner that protects the public, livestock, and wildlife. The HWCA also established a tracking system for the off-reservation handling and transportation of hazardous waste from the point of waste generation to the point of ultimate disposition, as well as a system of fees to cover the costs of operating the hazardous waste management program. The HWCA is California's means for implementing the RCRA "cradle-to-grave" tracking requirement. The USEPA used several components of the HWCA when CERCLA was first introduced in 1980. The primary state entity that oversees the "cradle-to-grave" regulations is DTSC.

Yuba County Environmental Health Department

The County Environmental Health Department manages several programs that oversee hazards and hazardous materials in varying degrees. The micro agency within the County Environmental Health Department responsible for supervising hazardous materials programs within County is the Certified United Program Agency (CUPA). CUPA is responsible for overseeing the implementation of federal and State regulations and programs at the county level, such as RCRA and the California Accidental Release Prevention program. In addition, the County Environmental Health Department is part of the regional Yuba-Sutter Hazardous Materials Response Team and the Environmental Health Mutual Aid System. Yuba-Sutter Hazardous Materials Response Team assists with the responses to hazardous materials spill and release in Yuba and Sutter counties while the Environmental Health Mutual Aid is a state-wide program to provide aid to other counties in the event of a disaster, such as wildfires.

Yuba County Office of Emergency Services

The County Office of Emergency Services coordinates the necessary planning for emergency preparedness, response, recovery, and mitigation. This includes providing the County public with emergency and disaster information and education necessary for the residents to make informed and safe decisions should an incident occur.

Yuba County 2030 General Plan

The *Yuba County 2030 General Plan* (General Plan), adopted in 2011, is the comprehensive guiding document for development and conservation in the unincorporated areas of the County, which include the off-reservation properties in the vicinity of the Project Site. The General Plan does not apply to the trust land that the Proposed Project would be located on, or to the Proposed Project itself. Policies in the General Plan that are relevant to the off-reservation hazardous materials and wildfire conditions in the vicinity of the Proposed Project include the following:

Public Health and Safety Element

Goal HS2 Protect people and property from wildland and urban fire risk and create more fire-resilient communities.

Policy HS2.1 Prior to approval, new developments proposed in areas of very high, high, or moderate fire hazard, as designated on maps maintained by Cal Fire, shall demonstrate compliance with Fire Safety Regulations and local regulations for defensible space,

ignition-resistant construction materials, property maintenance to reduce fuels, natural hazards disclosure requirements, emergency access and multiple access points, availability of water for fire suppression, and other relevant building and development standards

Policy HS2.3 New Development projects shall pay on a fair-share basis for fire stations, equipment, and other fire suppression improvements necessary to provide adequate fire protection services.

Policy HS2.8 Communication and electricity infrastructure in areas prone to wildfire should be located and designed to avoid interruptions during periods of fire activity.

Policy HS2.10 New developments shall provide access that will allow safe evacuation and movement of firefighting equipment during a wildfire. Evacuations routes shall have the capacity to accommodate traffic in relation to the population served.

Policy HS2.11 New developments in moderate, high or very high fire hazard areas cannot propose limited access roads unless such access limitation do not adversely affect fire response and suppression.

Policy HS2.12 Property owners may manage fuel load on County road easements and rights-of-way adjacent to their properties with prior approval of the County and in compliance with applicable County standards.

Policy HS2.15 Developments in the Valley Growth boundary shall be planned and constructed to resist the encroachment of uncontrolled fire.

Goal HS4 Avoid land use conflicts with, and reduce exposure of people and property to risks from the County's airports.

Policy HS4.2 New developments shall be located and designed to avoid conflicts with current and potential future operations at Beale Air Force Base, including Beale's Phased Array Warning System.

Goal HS7 Protect the community from the harmful effects of hazards and hazardous materials.

Policy HS7.1 The county will assess risks associated with public investments and other county-initiated actions, and new private developments shall assess and mitigate hazardous materials risks and ensure safe handling, storage, and movement in compliance with local, state and federal safety standards.

Policy HS7.2 Hazardous materials waste sites and areas of contamination shall be remediated in conformance with applicable federal and state standards prior to new development that could be substantially and adversely affected by the presence of such contamination.

Goal HS9 Minimize the loss of life and damage to property from natural and human-caused hazards by ensuring adequate emergency routes and response.

3.6.2 ENVIRONMENTAL SETTING

3.6.2.1 Database Searches and Historical Review

Hazardous material database searches and historical review were conducted for the Project Site and surrounding area. The database inquiries specifically sought information pertaining to records of known storage tank sites and hazardous materials(s) generation, storage, and/or release sites. In addition, a historical review was performed using historical aerial photographs, topographic maps, fire insurance maps, and city directory listings to understand what historically existed on the Project Site. The historical review and database searches were both used to identify Recognized Environmental Condition, Historical Recognized Environmental Condition, and Controlled Recognized Environmental Condition sites that may pose immediate environmental risks off of trust land. A detailed list of the database results is available in **Appendix H.** The database search lists several on-site records that include National Pollutant Discharge Elimination System (NPDES) permit, California Environmental Reporting System (CERS), Facility Index System/Facility Registry System (FINDS), Enforcement & Compliance History Online (ECHO), and California Integrated Water Quality System (CIWQS). However, none of the entries within a one-mile radius of the Project Site, including those listed onsite, indicate current or past hazardous materials releases, and they are not generally considered to be potential issues for off-reservation land.

3.6.2.2 Existing Hazardous Materials Conditions

On-Site Conditions

From a desktop review, there are no identified signs of contamination at the Project Site that would affect the off-reservation environmental quality. Operation of the existing Resort and ancillary support and commercial facilities on the trust land involves the delivery, use, and storage of hazardous materials. On-site hazardous material used by the Resort and ancillary support and commercial facilities on the trust land is regulated by the USEPA. Due to the Resort and ancillary support and commercial facilities using and storing only small quantity of hazardous materials on trust land, permitting and tracking of these materials is not required under federal regulations.

To analyze any potential off-reservation impacts associated with the Proposed Project, the discussion below summarizes the hazardous materials currently in use and stored at the Resort and ancillary support facilities on the trust land.

Standby Generators

An existing standby generator facility provides a centralized system for backup energy supply, providing power to all Resort and auxiliary support and commercial facilities. The standby generator facility contains seven generators (for a total generation capacity of 5.6 megawatts). Diesel is used by the generators when in operation. The diesel fuel is stored on-site; all fuel storage tanks and an oil storage area are dual-walled for spill containment and meet Occupational Safety and Health Administration (OSHA) and USEPA standards.

Water and Wastewater Treatment

As discussed in **Section 2.4.7**, drinking water currently used for the Resort is sourced from a well on trust land. This water is treated to USEPA and California Department of Health Services drinking water standards. Currently, level of treatment depends on the daily groundwater quality, but only very limited hazardous materials are used during the water treatment process as necessary. The limited hazardous

materials used during the water treatment process are stored and handled according to OSHA and USEPA standards.

As discussed in **Section 2.4.8**, the existing wastewater treatment plant (WWTP) that is located on the trust land treats wastewater with screening, membrane bioreactor for microfiltration, dewatering of biosolids, and then off-site disposal of the dewatered biosolids. This wastewater treatment process requires very little to no hazardous materials. The limited hazardous materials onsite at the WWTP are stored and handled according to OSHA and USEPA standards.

All wastewater and water treatment employees have been trained in hazardous materials handling and fire safety. All Material Safety Data Sheets for the WWTP and water treatment facility are located near the area where the corresponding material is stored and or used.

Resort Maintenance

The existing Resort does not generate significant quantities of hazardous materials. The Resort maintenance crew uses and stores small amounts of fuel, motor oil, and waste oil for maintenance of equipment and machinery. These materials are stored on a concrete slab in a secured locker in the Resort that is marked "Flammable," as required by OSHA. Gasoline is stored in clearly labeled 5-gallon cans. Motor oil is purchased and kept in plastic one-quart sealed containers until needed. Due to the relatively small amounts of hazardous materials used or stored on the Resort property at any time, no permits for or tracking of these materials are required under RCRA by the USEPA. Cleaning supplies are stored in secured janitorial closets or lockers at the Resort and are accessible only to authorized personnel.

Off-Site Conditions

Off-reservation land uses adjacent to the Project Site are primarily agricultural. Hazardous materials associated with these adjacent off-reservation land uses can include agricultural chemicals such as fertilizers and pesticides, waste oils associated with maintenance of farming equipment, and aboveground storage tanks used to store diesel and unleaded fuel for farming equipment.

3.6.2.1 Existing Hazard Conditions

Airports and Airport Use Plans

The nearest airport to the Project Site is Yuba County Airport, approximately 3.5 miles northwest of the Project Site. The next nearest airport is the Beale Air Force Base Aero Club Flight Training Center, approximately 6.3 miles northeast of the Project Site. The Project Site is not within the area of influence for either airport (Sacramento Area Council of Governments, 2010; Sacramento Area Council of Governments, 2011).

Fire Hazards

The area surrounding the Project Site is primarily agriculture and flat with small elevation changes. As described in **Section 3.4.2**, the climate is hot and semi-arid to sub-humid with approximately 22.02 inches of precipitation per year. The Project Site is located within the Sacramento Valley, and severe weather that could exacerbate wildfires or wildfire risks, such as strong winds, are not common within the Sacramento Valley (ArcGIS, 2021). The County's General Plan has a Fire Risk Severity Zones map that is based on California Department of Forestry and Fire Protection (Cal Fire) Fire Hazard Severity Zone Map Update Project. Fire Hazard Severity Zones is defined as the following in the General Plan

"…Areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. Moderate, high, and very fire hazard severity zones are mapped by the California Department of Forestry and Fire" (Yuba County, 2011). The Project Site and the surrounding area are designated as Non-Wildland/Non-Urban under the County 2030 General Plan's Fire Risk Severity Zones map, which can be seen in **Figure 3.6-1**. Therefore, the Project Site is not within a Fire Risk Severity Zone.

3.6.3 IMPACT ANALYSIS

Significance Criteria

The following criteria are established by the Environmental Impact Analysis Checklist attached to the Procedures as Appendix B (Checklist) (**Appendix A**) and are used in this section to evaluate the potential off-reservation environmental impacts of the Proposed Project off-reservation with respect to hazards and hazardous materials. Such an impact is considered significant if it would:

- Create a significant hazard to the off-reservation public or the off-reservation environment through the routine transport, use, or disposal of hazardous materials;
- 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;
- 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?
- Expose off-reservation people or structures to a significant risk of loss, injury or death involving wildland fires.

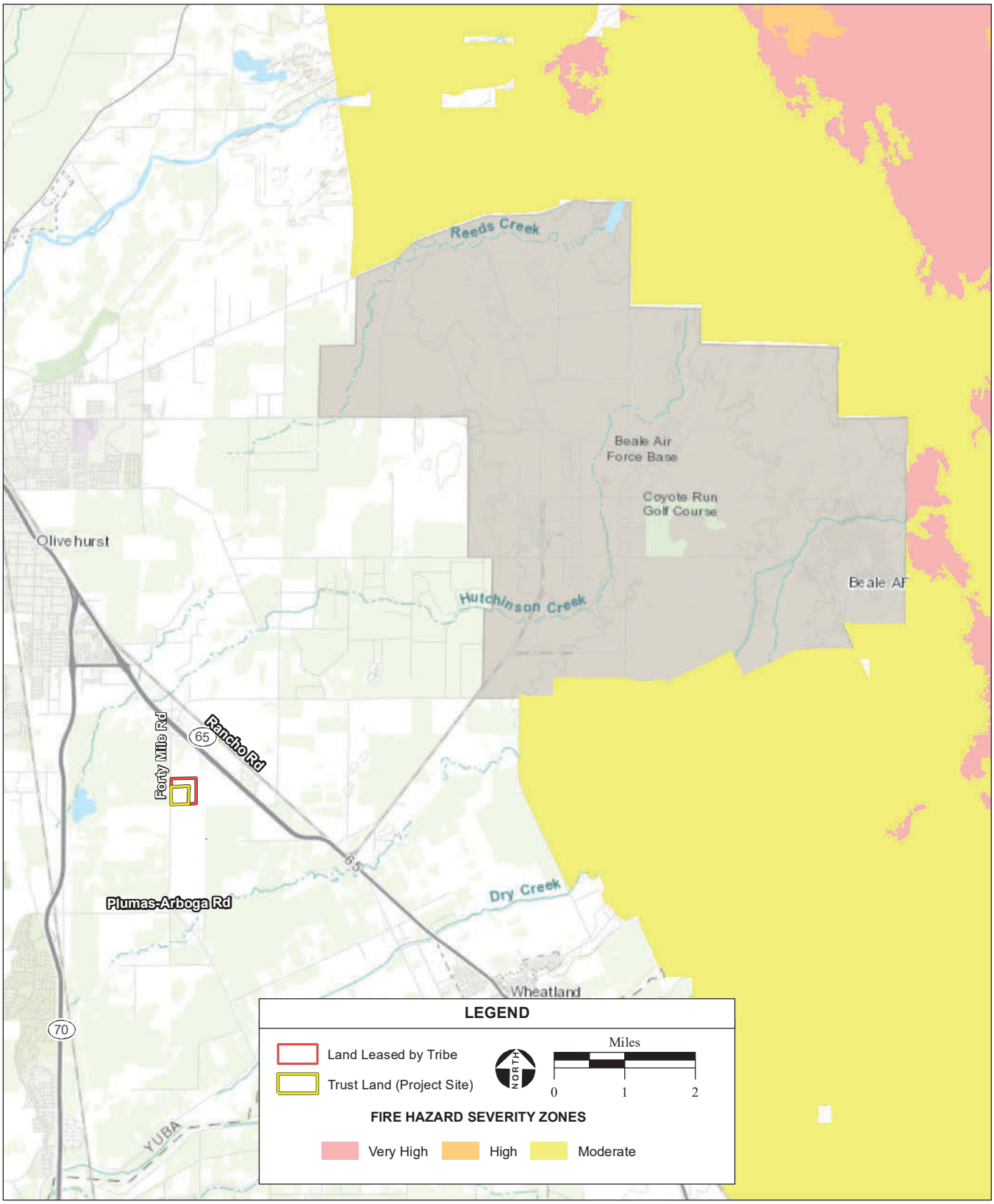
Methodology

Off-reservation impacts of the Proposed Project with respect to hazards and hazardous materials were analyzed based on existing conditions of the Project Site and its vicinity. Furthermore, an assessment of how the Proposed Project could adversely affect existing off-reservation hazards and hazardous material incidents or potentially cause new hazards or incidents with hazardous materials were also taken into consideration. The evaluation includes a review of published information regarding the existence of hazards and hazardous materials within and in close proximity to the Project Site, such as hazardous material database searches.

Impact 3.6.1: The Proposed Project could potentially create a significant hazard to the off-reservation public or the off-reservation environment through the routine transport, use, or disposal of hazardous materials.

Construction

During construction of the Proposed Project, limited quantities of miscellaneous hazardous substances such as fuels, solvents, oils, and paint would be used and stored at the Project Site. Various contractors could use temporary bulk storage containers for fuel storage and storage sheds or trailers for fueling and maintenance purposes. As with any liquid or solid, the handling and transfer from one container to another, such as during transport, has the potential for an accidental release. If transported, used, stored, and disposed of properly, these materials would not pose a hazard to the off-reservation public or the off-reservation environment. However, if these materials are not transported, used, stored, or disposed of properly, spills or leaks could pose a hazard to the off-reservation public and to the



SOURCE: Calfire, 2008;Yuba County GIS, 2020; AES, 2/24/2021

Figure 3.6-1
Fire Risk Severity Zones

off-reservation environment. Therefore, the mishandling of hazardous materials on the Project Site during construction could create a significant off-reservation impact.

With implementation of **Mitigation Measure 3.6-1**, off-reservation environmental impacts associated with the storage and use of hazardous materials in the construction of the Proposed Project would be reduced. Furthermore, during transportation of hazardous materials off- and on-site, transporters of hazardous materials would be required to adhere to applicable State, federal, and local regulations. This would ensure that the transportation of hazardous materials to and from the Project Site would not result in spills. Therefore, the overall off-reservation impact from the routine transport, use, or disposal of hazardous materials during construction is less than significant with mitigation.

Operation

The existing generator system are sized to meet the needs of the Resort, as well as the Proposed Project. Therefore, no additional generator units would be required and no additional fuel would need to be transported or stored as a consequence. Additionally, fuel storage on trust land would remain consistent with existing conditions and processes. Consequently, implementation of the Proposed Project would not alter the hazardous materials used for the emergency generator system as discussed above. No impact to the off-reservation environment associated with fuel storage would result due to the Proposed Project.

As discussed above, small amounts of hazardous materials are used during the water treatment and wastewater treatment processes. While the Proposed Project would increase water and wastewater consumption, this would produce little to no increase in the quantity of hazardous material used because the water and wastewater treatment processes themselves use very small amounts of chemicals, depending on treatment needs. Furthermore, due to the relatively small amount of chemicals used in the water and wastewater treatment processes, a marginal increase would not result in a new requirement for permitting or tracking of these materials under RCRA by the USEPA. Consequently, operation of the Proposed Project would not result in a significant off-reservation impact associated with the storage and use of hazardous materials.

Other potentially hazardous materials currently used by the Resort and its ancillary facilities, such as cleaners, motor oil, paint, lubricants, and pesticides, would only minimally increase with implementation of the Proposed Project. The current procedures for storing and utilizing these hazardous materials according to federal regulations and manufacture guidelines would remain unchanged. Transportation and disposal would continue to follow applicable federal, state and local regulations and guidelines. Therefore, these hazardous materials would not result in a significant off-reservation impact to the environment.

In conclusion, with no increase in fuel storage being required as a result of the Proposed Project and the minimal increase in the other hazardous materials being used, operation of the Proposed Project would result in a less-than-significant impact associated with hazards to the off-reservation public and off-reservation environment through the routine transport, use, or disposal of hazardous materials.

Impact 3.6.2: The Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed off-reservation school.

As discussed in **Section 3.10.2**, the nearest off-reservation schools are in Plumas Lake Elementary School District, approximately 1.6 miles south of the Project Site. As described for Impact 3.6.1, implementation of the Proposed Project would not result in off-reservation hazardous emissions or off-reservation handling of hazardous materials. The distance from the Proposed Project to the nearest off-reservation school is greater than one-quarter mile. Furthermore, no off-reservation hazardous emissions or off-reservation handling of hazardous materials occurring as a result of the Proposed Project. Therefore, no impact on off-reservation schools would occur.

Impact 3.6.3: The Proposed Project could potentially 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.

As discussed in **Section 3.6.2**, there are no active contamination sites within a one-mile radius of the Project Site. Therefore, there is no contaminated soil or groundwater that construction equipment could disturb during the construction of the Proposed Project and therefore accidentally release onto the off-reservation environment. However, there is a remote possibility that unknown soil contamination could be discovered during earth-moving construction activities. **Mitigation Measure 3.6-1** would ensure that the unexpected discovery of contaminated soils would be handled appropriately and therefore not contaminate the off-reservation environment through accidental release. This impact is less-than-significant with mitigation.

As discussed under Impact 3.6.1, the hazardous materials used during operation of the Proposed Project would only minimally increase the total hazardous materials currently stored and used at the Resort and its ancillary facilities. These increased hazardous materials would primarily consist of cleaning supplies, potentially a small quantity of fuel, and the few chemicals used during the water and wastewater treatment process. These chemicals would be transported, stored, used, and disposed of according to applicable regulations and manufacture guidelines. Consequently, the Proposed Project would not increase the risk of accidental release of hazardous materials into the environment. This impact is less-than-significant.

Impact 3.6.4: The Proposed Project could expose off-reservation people or structures to a significant risk of loss, injury or death involving wildland fires.

Construction

The equipment used during construction of the Proposed Project may create sparks or create fire that could ignite dry grass or vegetation on the Project Site, which could lead to off-reservation wildfires. For instance, the use of power tools and acetylene torches may increase the risk of a fire hazard. While the Project Site is located within the Non-Wildland/Non-Urban under the County 2030 General Plan's Fire Risk Severity Zones, the off-reservation environment surrounding the Project Site consists of agricultural land that could act as fuel for a wildfire. This is a potentially significant impact. However, implementation of **Mitigation Measure 3.6-2**, construction personnel shall follow written standard operating procedures (SOPs), would reduce the impact associated with the potential for off-reservation wildland fires attributable to the construction of the Proposed Project to less than significant with mitigation.

Operation

In accordance with the Procedures, the Proposed Project would be constructed to meet or exceed the requirements of the," …California Building Code and the California Public Safety Code applicable to the County as set forth in titles 19 and 24 of the California Code of Regulations [CCR]." These would include fire and safety measures, such as fire resistance ratings of structural members (CCR, Title 24, Section 704) and fire walls (CCR, Title 24, Section 706). Furthermore, the Tribe would continue to take all necessary steps to reasonably ensure the ongoing availability of sufficient and qualified fire suppression services to the Resort and ancillary facilities after implementation of the Proposed Project. Fire protection features such as sprinkler systems and fire-resistant materials would be incorporated into the design of the Proposed Project. These measures would reduce the risk of a large structure fire in the Proposed Project spreading to off-reservation areas.

Four fire departments are located within approximately 5 miles of the Project Site and are available to serves all of the Tribe's trust land. **Section 3.10**, **Public Services and Utilities and Service Systems**, addresses potential off-reservation impacts of the Proposed Project associated with fire protection. As discussed therein, there are adequate resources and personnel to serve the Proposed Project and the surrounding communities. Therefore, if a wildfire should occur, there is sufficient fire protection resource and personnel to combat the wildfire in and around the Project Site. Therefore, impacts associated with exposing off-reservation people or structures to a significant risk of loss, injury, or death involving wildland fires during operation of the Proposed Project are less than significant**.**

3.6.4 MITIGATION MEASURES

The following mitigation measures are recommended to mitigate specific impacts identified in this TEIR:

3.6-1 Protection of the Environment from Hazardous Materials during Construction:

- During construction of the Proposed Project, the Tribe shall ensure, through the enforcement of contractual obligations of the contractors performing such construction, that all contractors prepare HMBPs if quantities of hazardous materials to be used are above applicable threshold criteria, and that such contractors transport, store, and handle construction-related hazardous materials in a manner consistent with applicable regulations and guidelines. These requirements may include, but are not limited to, applicable federal, state, and/or local regulatory agency protocols for off-reservation transportation and storage of materials and applicable federal and tribal protocols for on-trust land storage and handling of materials.
- As discussed in **Section 3.7**, **Hydrology and Water Quality**, a Stormwater Pollution Prevention Plan shall be prepared for the Proposed Project that identifies best management practices (BMPs) to be implemented during construction of the Proposed Project, as required by the NPDES Construction Stormwater General Permit. All BMPs required by the NPDES General Permit shall be implemented to ensure that hazardous materials do not enter any nearby waterways. BMPs outlined in **Mitigation Measure 3.7-1** shall be implemented, including the following practices that pertain to reducing the potential for the release of hazardous materials during construction.
    - Hazardous materials such as fuels and solvents used on the construction site shall be stored in covered containers and protected from rainfall, runoff, vandalism, and accidental release to the environment. All stored fuels and

solvents shall be contained in an area of impervious surface with containment capacity equal to the volume of materials stored.
    - A stockpile of spill cleanup materials shall be readily available at all construction sites. Construction workers shall be trained in spill prevention and cleanup, and individuals shall be designated as responsible for prevention and cleanup activities.
    - Equipment shall be properly maintained in designated areas with runoff and erosion control measures to minimize accidental release of pollutants.
- In the event that contaminated soil is encountered or suspected during construction-related earth-moving activities, all work will be halted until a professional hazardous materials specialist or other qualified individual assesses the extent of contamination. If contamination is determined to be hazardous, the Tribe will consult with the USEPA to determine the appropriate course of action to prevent potential contamination to the off-Reservation environment. If necessary, the Tribe shall implement a remediation plan in conjunction with continued project construction. Contaminated soils that are determined to be hazardous will be disposed of in accordance with federal regulations.

3.6-2 Construction personnel shall follow written SOPs for servicing and operating construction equipment and vehicles to reduce the potential for wildland fires. These SOPs shall address equipment use and the storage and use of hazardous materials during construction of the Proposed Project. The SOPs shall include the following procedures, to be implemented where feasible and when reasonable:

1. Refueling shall be conducted only with approved pumps, hoses, and nozzles;
2. Catch-pans shall be placed under equipment to catch potential spills during servicing;
3. All disconnected hoses shall be placed in containers to collect residual fuel from the hose;
4. Vehicle engines shall be shut down during refueling;
5. No smoking, open flames, or welding shall be allowed in refueling or service areas;
6. Service trucks shall be provided with fire extinguishers;
7. Staging areas, welding areas, and areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel. To the extent feasible, the contractor shall keep these areas clear of combustible materials to maintain a firebreak;
8. Any construction equipment that normally includes a spark arrester shall be equipped with an arrester in good working order; and
9. All hazardous materials transported to or from the Project Site shall be transported in accordance with applicable state and federal regulations as required based on quantity and class of materials.

3.7 HYDROLOGY AND WATER QUALITY

This section addresses the off-reservation environment associated with hydrology and water quality, discusses potential impacts of the Proposed Project on off-reservation hydrology and water quality, and recommends mitigation measures to reduce any associated potentially significant off-reservation impacts.

3.7.1 REGULATORY SETTING

Federal

Clean Water Act

The Clean Water Act (CWA; 33 U.S. Code [USC] §§ 1251-1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The U.S. Environmental Protection Agency (USEPA) is delegated as the administrative agency under the CWA. Relevant sections of the CWA are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines. Section 303(d) requires states to identify impaired off-reservation water bodies, rank these impaired bodies based on severity of contamination and uses for the waters, and develop water quality management strategies, usually in the form of total maximum daily loads (TMDL) for the contaminant(s) of concern.
- Section 401 (water quality certification) requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the United States, to obtain certification from the USEPA, for on-trust land activities, or the state, for off-reservation activities, that the discharge will comply with other provisions of the CWA.
- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States. Each NPDES permit contains limits on concentrations of pollutants discharged to surface waters to prevent degradation of water quality and protect beneficial uses.

Anti-Degradation Policy

Federal policy (Code of Federal Regulations [CFR], Title 40, Part 131.6) specifies that each state must develop, adopt, and retain an anti-degradation policy to protect the minimum level of off-reservation surface water quality necessary to support existing uses. Each state must also develop procedures to implement the anti-degradation policy through water quality management processes. Each state's anti-degradation policy must include implementation methods consistent with the provisions outlined in 40 CFR § 131.12. On trust land, these issues are addressed by the USEPA.

Safe Drinking Water Act

Minimum national drinking water standards are established through the 1974 Safe Drinking Water Act (amended in 1986 and 1996). Guidelines for groundwater protection are also issued through this act. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. The USEPA regulates these types of contaminants through the development of national primary and secondary maximum contaminant levels (MCL) for drinking water.

Disaster Relief Act

The Disaster Relief Act of 1974, as amended by the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, created the Federal Emergency Management Agency (FEMA), which is responsible for determining flood elevations and floodplain boundaries based on U.S. Army Corps of Engineers (USACE) studies. FEMA is also responsible for distributing Flood Insurance Rate Maps, which are used in the National Flood Insurance Program. These maps identify the locations of special flood hazard areas, including 100-year floodplains. A 100-year flood event is defined as a flood event which has a 1 percent chance of occurring in any given year.

FEMA allows non-residential development in a floodplain; however, construction activities are restricted within flood hazard areas, depending upon the potential for flooding within each area. Federal regulations governing development in a floodplain are set forth in 44 CFR Part 60.3 (c)(10). Cumulative development is restricted from increasing the water surface elevation of the base flood by more than one foot within the floodplain. These standards are implemented off reservation at the state level through construction codes and local ordinances applicable to residential and non-residential structural improvements.

NPDES Permitting Program

All facilities discharging pollutants from point sources into waters of the United States must obtain a discharge permit under the NPDES program. Municipal facilities discharging pollutants, such as publicly owned treatment works and municipal storm systems, are permitted either under individual permits issued for a given facility or under a general NPDES discharge permit that covers multiple discharge sources (USEPA, 2016a). For individual permits, an application package must be submitted to the permitting authority including the application form and supplemental documents that provide the permitting authority with information regarding the type of discharge, receiving water characteristics, and other pertinent information. After reviewing an application for an individual facility permit, the permitting authority may issue a permit with specific effluent limits, or Waste Discharge Requirements (WDR), based on either water quality or limitations on available technology (USEPA, 2016a). The permitting authority is responsible for enforcement of the permit requirements. Individual facility permits must be renewed periodically, typically every five years, before they expire. A general permit covers multiple types of facilities or point-source discharges of the same nature or that require the same monitoring provisions.

Individual NPDES Permits for Discharge into Impaired Waterways

To ensure compliance with the CWA, USEPA must consider the status of the regional water quality before issuing an individual facility NPDES permit for discharge into waterways formally designated as "impaired." Pollutant load allocations typically take the form of TMDLs calculated for each pollutant of concern for which the waterway is impaired, and USEPA will consider these TMDLs when writing the WDRs for a given permit. TMDLs are calculated by determining a maximum amount of pollutant load than can enter the waterway from all sources and still allow water quality to improve sufficiently within a set time frame. According to 40 CFR § 122.4(i):

The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet those standards even after the application of the effluent limitations required by sections 301(b)(1)(A) and 301(b)(1)(B) of CWA, and for which the State or interstate agency has performed a pollutants load allocation for the pollutant to be discharged, must demonstrate, before the close of the public comment period, that:

1. There are sufficient remaining pollutant load allocations to allow for the discharge; and
2. The existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards.

The applicant for an individual facility permit must therefore demonstrate to the USEPA that both of the conditions described in 40 CFR § 122.4(i) are met before a permit may be issued for a discharge into an impaired waterway.

General NPDES Permit for Construction

In 1990, an amendment to the CWA directed the NPDES permitting program to address non-point-source pollution from construction activities. Construction activities include clearing, grading, excavation, stockpiling, and reconstruction of existing facilities involving removal and replacement of existing foundations or other hardscapes. Construction projects disturbing one or more acres of soil must be covered under the NPDES general permitting process. For tribal projects on land held in trust by the federal government, the tribe proposing the project must apply for coverage under the USEPA's Stormwater General NPDES Permit for Construction Activities.

Project proponents are required to submit to the USEPA a complete Notice of Intent (NOI) to comply with the permit. A complete NOI package consists of an NOI form, site map, and fee. The USEPA's Stormwater General NPDES Permit for Construction Activities also requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP contains a site map showing the construction site perimeter, existing and proposed buildings, lots and roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the site. The SWPPP must list best management practices (BMP) that will be implemented during construction and operation to address stormwater runoff rates and quality. BMPs include the following categories:

- *Site Planning Considerations*, such as preservation of existing vegetation;
- *Vegetation Stabilization* through methods such as seeding and planting;
- *Physical Stabilization* through use of dust control and stabilization measures;
- *Diversion of Runoff* by utilizing earth dikes and temporary drains and swales;
- *Velocity Reduction* through measures such as slope roughening/terracing; and
- *Sediment Trapping/Filtering* through use of silt fences, straw bales and sand bag filters, and sediment traps and basins.

State and Local

The Proposed Project is located on the Estom Yumeka Maidu Tribe of the Enterprise Rancheria's (Tribe) federally owned trust land and is not subject to state or local controls concerning hydrology and water quality. However, such controls apply to off-reservation lands in the vicinity of the Project Site.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for off-reservation surface water and groundwater quality regulation within California. This act established the authority of the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB). The SWRCB administers water rights, water pollution control, and water quality functions throughout the state, while the RWQCBs conduct planning, permitting, and enforcement activities within designated regions.

The Porter Cologne Act (§ 13242) requires that a TMDL program of implementation be developed in the Regional Water Quality Control Plans (refer to the following *RWQCB's Anti-degradation Policy* section) for off-reservation water bodies listed under Section 303(d) of the CWA that describes how water quality objectives will be attained. This, at a minimum, would require a description of the nature of actions that are necessary to achieve those objectives, including recommendations for appropriate action by any off-reservation entity, public or private; a time schedule for the actions to be taken; and a description of surveillance (monitoring) to be undertaken to determine compliance with the objectives. The objectives are enforced through the NPDES permitting program. Any action that may result in the off-reservation discharge of waste that could affect the quality of the state's waters requires the discharger to file a report of waste discharge (RWD) with the RWQCB when applying for coverage under the state's implementation of the NPDES permitting program. The RWQCB staff analyzes the RWD and characteristics of the waste proposed to be discharged and prepares draft WDRs, which constitute a permit for the discharge. Publicly-owned wastewater treatment facilities must obtain WDRs before discharging treated effluent to off-reservation lands. WDRs include operational requirements, contaminant limitations, and monitoring requirements for both discharges and receiving waters.

RWQCB Anti-degradation Policy

The Porter Cologne Act requires the state, through the SWRCB and the RWQCBs, to designate beneficial uses of off-reservation surface water and groundwater and to specify water quality objectives designed to protect those off-reservation uses. These water quality objectives are presented in the Regional Water Quality Control Plans (basin plans). Basin plans are developed and periodically reviewed to fulfill the state's requirements of the anti-degradation policy of the CWA. These basin plans designate beneficial uses within California's major off-reservation rivers and groundwater basins and establish water quality objectives for waters under state jurisdiction located in each region. The beneficial uses identified within each basin plan describe the qualities and services that are derived from a water body. In turn, water quality objectives are intended to protect and support the continued viability of beneficial uses. Implementation of basin plans occurs primarily through issuance of WDRs. Each basin plan provides a technical basis for determining WDRs and, when necessary, regulatory enforcement action.

California Water Code

The California Water Code designates the California Department of Public Health (CDPH) as the lead agency responsible for developing uniform statewide recycling criteria for each type of off-reservation use of treated wastewater for the protection of public health. The CDPH and the RWQCBs are directed under the California Water Code to regulate off-reservation treated wastewater production and use. The CDPH has jurisdiction over the off-reservation production of treated wastewater and the enforcement of California Code of Regulations (CCR) Title 22 for treated wastewater criteria. The RWQCB is responsible for issuing treated wastewater use requirements (including discharge prohibitions and monitoring and reporting programs) and user requirements associated with the implementation of off-reservation treated wastewater projects.

The California Water Code requires any entity under state jurisdiction proposing to recycle water or use treated wastewater to file a RWD with the corresponding RWQCB. It is state policy to encourage development of recycled water throughout California. The California Water Code further states that the use of potable water for non-potable uses (e.g., irrigation of greenbelt areas, such as cemeteries, golf courses, parks, highway landscaped areas, and industrial uses) is considered a waste and an unreasonable use of potable water, under the California State Constitution, when suitable recycled

water is available at a reasonable cost and the development of facilities to recycle water is in the interest of the people of the state to supplement existing surface and groundwater supplies.

California Code of Regulations, Title 22

This section of the CCR, commonly referred to as Title 22, is a broad set of regulations dealing with social issues. Title 22 Divisions 4 and 4.5 address off-reservation environmental and public health issues such as hazardous waste, medical waste, and the protection of drinking water.

Division 4, Chapter 3 – Water Recycling Criteria

Division 4, Chapter 3 establishes the acceptable uses of treated wastewater, wastewater treatment requirements for each use, use area requirements, engineering report requirements, reporting and record-keeping requirements, and design requirements for operational reliability of treatment for generators and users of recycled water under state jurisdiction. These regulations establish acceptable levels of constituents in treated wastewater for a range of uses, and prescribe means for assuring reliability in the production of treated wastewater. Criteria for the production of treated wastewater include water quality standards, treatment process requirements, operational requirements, and treatment reliability requirements. The intent of these regulations is to ensure the protection of public health associated with the use of treated wastewater. Title 22 treated wastewater regulations for a specific reuse category are based on the expected degree of human contact with the treated wastewater.

Under Title 22, the highest level of wastewater treatment is disinfected tertiary recycled water, which may be used for the full range of non-potable uses, including irrigation of food crops, parks and playgrounds, school yards, residential landscaping, golf courses, and cemeteries. Under certain conditions, disinfected tertiary recycled water has been determined to be suitable for non-restricted recreational impoundments.

Division 4, Chapter 15 – Domestic Water Quality and Monitoring Regulations

Division 4, Chapter 15 contains California's drinking water MCLs, commonly referred to as Title 22 standards, and also includes rules for treatment techniques and best available technologies for treating water to Title 22 standards, as well as regulations regarding the certification of environmental laboratories that test for Title 22 constituents. The Central Valley Regional Water Quality Control Board (CVRWQCB) Basin Plan (Basin Plan) incorporates Title 22 standards as a basis for its water quality objectives for beneficial uses of the off-reservation water resources in the Central Valley Basin. Additionally, the Basin Plan provides more basin-specific goals for constituents with no California MCL, water quality objectives related to specific off-reservation bodies of water, and TMDLs for off-reservation impaired waterways (CVRWQCB, 2018).

Sustainable Groundwater Management Act

The intent of the Sustainable Groundwater Management Act (SGMA; California Water Code § 10720 et seq.) is to "enhance local management of groundwater consistent with rights to use or store groundwater… [and] to preserve the security of water rights in the state to the greatest extent possible consistent with the sustainable management of groundwater." The SGMA states that "any local agency or combination of local agencies overlying a groundwater basin may elect to be a groundwater sustainability agency for that basin" (California Water Code § 10723). A groundwater sustainability agency will be formed within each groundwater basin to prepare and implement a plan for long-term

groundwater sustainability. The Yuba Water Agency (YWA) has passed and adopted a resolution to electing to become the groundwater sustainability agency for the Proposed Project area.

County of Yuba 2030 Countywide General Plan

The *County of Yuba 2030 Countywide General Plan* (General Plan), adopted in 2011, is the guiding document for development in the unincorporated area of the County, which includes the off-reservation vicinity of the Proposed Project (Yuba County, 2011a). The General Plan does not apply to trust land or to the Proposed Project itself. Goals, policies, and implementation actions in the General Plan that are relevant to off-reservation surface waters and groundwater hydrology, water quality, and flooding in the vicinity of the Proposed Project include the following.

Public Health and Safety Element

Goal HS-3 Preserve, protect, and improve the quality of regional water supplies.

Policy HS3.2 County and regional water supply providers should monitor and proactively address water quality problems, with a focus on achieving and maintaining adequate water quality for "beneficial uses" of area waterways identified in the Yuba County Integrated Regional Water Management Plan. "Beneficial uses" in Yuba County include municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.

Policy HS3.14 The County will encourage the preservation, creation, or restoration of riparian corridors, wetlands, open space buffers, and other types of open space that provide water quality benefits.

Action HS3.1 During General Plan buildout, the County may conduct water quality monitoring along key waterways and watersheds. The County may require more stringent water quality standards for developments that may affect waterways or watersheds with identified water quality problems. The County, in collaboration with regional water supply providers, will conduct ongoing monitoring to ensure the application and effectiveness of construction and environmental policies and standards. Ongoing monitoring would be designed to identify problems that may require corrective actions. The County will collaborate with regional and state agencies on the need

Natural Resource Element

Goal NR-12 Reduce water consumption and ensure reliable water supply in normal years and during times of drought

Policy NR12.1 For new developments, the County will manage land use change in a way that reduces the potential for overdraft of groundwater supplies, recognizes overlying groundwater rights and surface water rights, and helps to ensure that the combined use of surface and groundwater resources provides for current and future water demand.

Policy NR12.4 The County will encourage the use of recycled water and water from irrigation districts that is not treated to urban standards for outdoor irrigation, toilet flushing, fire

hydrants; commercial and industrial processes, carwashes, concrete batching, laundromats; dust control; parks, golf courses, and other landscaped areas, and other appropriate water-intensive uses.

Policy NR12.9 New developments proposing individual wells within Rural Communities shall demonstrate an adequate supply of water without adverse impact to groundwater through testing, hydrological studies, or other means approved by the County.

Yuba Water Agency

The YWA is an independent public agency that manages off-reservation water resources within Yuba County. The YWA's primary missions are to manage flood risk reduction, water supply reliability, fish habitat protection and enhancement, hydroelectric generation, and recreation at New Bullards Bar. The YWA owns and operates facilities with a capacity of storing approximately one million acre-feet of water and generating more than 400 megawatts of hydropower. Each year the YWA releases more than 300,000 acre-feet of water to eight irrigation districts that convey the water to local farmers and ranchers in Yuba County. The South Yuba Water District operates the irrigation canal adjacent to the Project Site and this canal will be crossed over within the county road right of way, the canal receives water from the YWA to provide irrigation supply to farmers.

3.7.2 ENVIRONMENTAL SETTING

Surface Water

Watershed

The Project Site is located within the Lower Feather River watershed (U.S. Geological Survey catalog unit 18020106). A South Yuba Water District irrigation ditch borders the Project Site to the south. An intermittent stream, Kimball Creek, is located north of the Project Site. Kimball Creek flows southwest eventually discharging to an unnamed lake (formerly named Plumas Lake). This waterbody enters a canal that flows south and discharges to Dry Creek. Dry Creek flows west along the Yuba/Sutter County border. Dry Creek eventually discharges to the Bear River. Bear River ultimately discharges to the Feather River. Greater than one mile south of the Project Site, Best Slough flows in a southwesterly direction. This slough also discharges to a series of canals that eventually feed into Dry Creek. An agricultural drainage is located southeast of the wastewater treatment plant (WWTP). This drainage appears to flow into Best Slough.

Drainage

The Project Site is located in a rural area of Yuba County, south of the intersection of Forty Mile Rd and State Route 65. Runoff from the existing drainage system at the Resort is directed through a collection system into a series of settling basins and eventually an inundation basin along Forty Mile Rd. There is an additional roadside drainage ditch, serving as a vegetated swale, that runs south to north along Forty Mile Rd.

Flooding

The Federal Emergency Management Agency maps flood hazard areas. These maps define areas that are likely to be inundated by a 100-year storm event and elevations of the base flood. According to the FEMA Flood Insurance Rate Map (FIRM) for the area (Map Number 06115C0420D, Effective Date February 18, 2011), the northwest portion of the reservation is located within Flood Zone A. This flood zone is defined as an area of 100-year flood. The FIRM shows a Zone A flood elevation of 60 feet. A

USACE study (2005) estimated the Zone A flood elevation of 59 feet. The reduction of one foot in the water surface elevation is due to reduction in stage in the Bear River. The Project Site and WWTP site are located within Flood Zone C, defined as an area of minimal flooding (FEMA, 2011).

The Central Valley Flood Protection Board currently holds an inundation easement on lands that include the northwest portion of the reservation and the parking lot utilized by the Casino to the north. The inundation easement generally allows for the right to flood the property without recourse. Inundation basins have been created within these easements to contain flood waters within a 100-year flood event and to avoid flooding on the reservation and in the adjacent parking area.

Surface Water Usage

Water demand from the Resort is met through the use of an on-site groundwater well, no surface waters are diverted for use by the Tribe. The existing well is sufficient to meet the demand of the Proposed Project and surface water diversion will not be needed to meet the demands of the Proposed Project.

Groundwater

The Project Site is located within the Sacramento Valley Groundwater Basin, specifically the South Yuba Sub-basin (YWA, 2019). The Sacramento Valley Groundwater Basin, a 5,000 square mile basin drained by the Sacramento River, is the largest in California and covers the Sacramento Valley, Butte, Colusa, Glenn, Placer, Sacramento, Solano, Sutter, Tehama, Yolo, and Yuba Counties. The average well yield in this basin is 800 gallons per minute and the maximum well yield is 4,000 gallons per minute. The Department of Water Resources classifies this basin as "moderate to intensive" for irrigation, domestic, stock and industrial use and assigns a high potential for additional development of groundwater in many locations in the basin, mainly near the Sacramento River and northern half of the basin (DWR, 1975).

Aquifers in the subbasin are composed of Surface Basin Deposits from the Holocene which includes recent stream channel and floodplain deposits and dredge tailings. These deposits are underlain by older alluvium from the Pliestocene including older floodplain deposits from the Modesto Formation and fan deposits from the Riverbank Formation. Recent stream channel and floodplain deposits consist of highly permeable, coarse-grained gravels containing boulders and rounded cobbles along with sands. These recent deposits range in thickness of up to 110 feet. Below these recent sediments, the Riverbank Formation consists of loosely compacted silt, sand, and gravel with lesser amounts of clay. Deposits are also more stratified and have a higher percentage of sands and gravels than the underlying Laguna Formation. Thickness is difficult to determine because the basal contact with the underlying Laguna formation is highly eroded and poorly delineated. The underlying Mehrten Formation is a sequence of volcanic-derived rocks deposited in the late Miocene through Pliocene epochs. The Mehrten Formation is of great importance to the fresh groundwater basin in the Central Valley. Generally, the Mehrten Formation yields large quantities of water to wells, although hydraulic conductivity in the Mehrten varies from place to place (YWA, 2019).

Groundwater levels in the South Yuba Subbasin typically decline in summer and recover in the fall and winter. More groundwater use occurs in the summer to irrigate fields and water lawns, and more recharge occurs in the winter from precipitation and higher streamflow. Groundwater generally flows from east to west across the Yuba Subbasins. Groundwater levels in the South Yuba Subbasin were generally declining from the 1940s through the early 1980s but have recovered since the introduction of surface water deliveries to the subbasin in 1983 (YWA, 2019). Groundwater storage in the South Yuba

Subbasin has increased by approximately 300 thousand acre-feet since the surface water delivery to the South Yuba Subbasin began (YWA, 2019).

Potable Water Supply

Potable water demands for the Resort are currently met through the use of an existing tribal groundwater well. The groundwater well is located east of the Proposed Project and utilizes a 450,000-gallon storage tank to meet the needs of the Resort and supplemental emergency services. The well currently used for production has a pumping capacity of approximately 317 gallons per minute (gpm). Groundwater is pumped from the well to a water storage tank at the Resort to provide the necessary fire storage and to meet peak water demands. Existing potable water demand is approximately 122,000 gallons per day (HydroScience Engineers Inc., 2008).

Another large utilizer of groundwater near to the Resort is the Toyota Amphitheater. As described in **Section 2.3**, the amphitheater is located approximately 1 mile south of the Project Site. Currently the annual water demand for the amphitheater is approximately 150 acre-feet (AES, 2009).

Water Quality

Surface Water Quality

No surface waters flow through the Project Site, however an irrigation ditch borders the reservation on the south, and Kimball Creek is located approximately 1,800 feet to the north. The YWA distributes water through an irrigation canal, maintained and operated by the South Yuba Water District, to the south to provide farmers with sufficient water for agricultural irrigation (YWA, 2019). Some surface waters in the Feather River watershed have been found to be contaminated with pesticides and mercury (SWRCB, 1999). The CVRWQCB has established water quality objectives for surface water within its jurisdiction to protect designated beneficial uses. The water quality objectives that govern off-reservation groundwater quality are summarized in **Table 3.7-1**.

TABLE 3.7-1. CVRWQCB WATER QUALITY OBJECTIVES

Property/Constituent	Water Quality Objective
Bacteria	In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 milliliters (ml), nor shall more than 10 percent of the total number of samples taken during any 30-day period exceed 400/100 ml.
Biostiumulatory Substances	Water shall not contain biostimulatory substances that promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
Chemical Constituents	Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the MCLs specified in the provisions of Title 22 of the CCR. At a minimum, water designated for use as domestic or MUN shall not contain lead in excess of 0.015 milligram per liter (mg/L).
Color	Water shall be free of discoloration that causes nuisance or adversely affects beneficial uses.
Dissolved Oxygen	For surface water bodies outside the legal boundaries of the Delta, the monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below

Property/Constituent	Water Quality Objective
	85 percent of saturation in the main water mass, and the 95th percentile concentration shall not fall below 75 percent of saturation. The DO concentrations shall not be reduced below the following minimum levels at any time: ▪ Waters designated WARM 5.0 mg/L ▪ Waters designated COLD 7.0 mg/L ▪ Waters designated SPWN 7.0 mg/L
Floating Materials	Water shall not contain floating materials in amounts that cause nuisance or adversely affect beneficial uses.
Methylmercury	For Cache Creek (Clear Lake to Yolo Bypass) (54), North Fork Cache Creek, and Bear Creek (tributary to Cache Creek), the average methylmercury concentration shall not exceed 0.12 and 0.23 mg methylmercury per kilogram wet weight of muscle tissue in trophic level 3 and 4 fish, respectively. For Harley Gulch (tributary to Cache Creek), the average methylmercury concentration shall not exceed 0.05 mg methylmercury per kilogram wet weight in whole, trophic level 2 and 3 fish.
Oil and Grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
pH	The pH shall not be depressed below 6.5 nor raised above 8.5.
Pesticides	▪ No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. ▪ Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses. ▪ Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the USEPA or the Executive Officer. ▪ Pesticide concentrations shall not exceed those allowable by applicable antidegradation policies (refer to SWRCB No. 68-16 and 40 CFR § 131.12.). ▪ Pesticide concentrations shall not exceed the lowest levels technically and economically achievable. ▪ Waters designated for use as domestic or MUN shall not contain concentrations of pesticides in excess of the MCLs set forth in CCR, Title 22, Division 4, Chapter 15. ▪ Waters designated for use as domestic or MUN shall not contain concentrations of thiobencarb in excess of 1.0 microgram per liter (µg/L).
Radioactivity	Radionuclides shall not be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
Sediment	The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Settleable Materials	Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
Suspended Materials	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

Property/Constituent	Water Quality Objective
Tastes and Odors	Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance or otherwise adversely affect beneficial uses.
Temperature	The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the RWQCB that such alteration in temperature does not adversely affect beneficial uses.
Toxicity	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
Turbidity	All waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial use.
Source: CVRWQCB, 2018.	

Groundwater Quality

The CVRWQCB has established water quality objectives for groundwater within its jurisdiction to protect designated beneficial uses. The water quality objectives that govern off-reservation groundwater quality are summarized in **Table 3.7-2**.

TABLE 3.7-2. CVRWQCB GROUNDWATER QUALITY OBJECTIVES

Property/Constituent	Water Quality Objective
Bacteria	In groundwaters used for domestic or MUN, the most probable number of coliform organisms over any 7-day period shall be less than 2.2/100 ml.
Chemical Constituents	Groundwaters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At a minimum, groundwaters designated for use as domestic or MUN shall not contain concentrations of chemical constituents in excess of the MCLs specified in the provisions of Title 22 of the CCR.
Radioactivity	At a minimum, groundwaters designated for use as domestic or MUN shall not contain concentrations of radionuclides in excess of the MCLs specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the CCR.
Tastes and Odors	Groundwaters shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
Toxicity	Groundwaters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial use(s).
Source: CVRWQCB, 2018.	

Groundwater quality in the Yuba Subbasins is reported as "good to excellent" for municipal, domestic, and agricultural uses and does not have a significant adverse impact on the beneficial uses of groundwater in the subbasins (YWA, 2019). There is naturally occurring arsenic, iron, and manganese in some areas that may have concentrations that exceed the associated drinking water thresholds held by the USEPA or California Department of Health Services, although such occurrences are limited. The

groundwater found on the Project Site does not exceed any primary requirements for safe drinking water.

Water Monitoring Program

The YWA conducts groundwater level monitoring is conducted through a groundwater well monitoring network, the samples and data are collected by the YWA or DWR. The network allows for demonstration of groundwater occurrence, flow directions, and hydraulic gradients between the principal aquifer and surface water features. Water quality parameters including EC, arsenic, nitrate, hexavalent chromium, sodium, boron, iron, manganese, and TDS are sampled or measured through this program. A total of 56 wells throughout the South Yuba Subbasin are monitored by the YWA. Wells monitored by YWA and wells monitored continuously by DWR were selected for the representative network. A subset of the groundwater level monitoring network was selected to be used for their ability to represent the long term, regional trends in the Yuba Subbasins. Monitoring is performed on a monthly or semiannual basis will occur on or near the third week of each month for all wells, to the extent feasible. The results of groundwater monitoring practices are published through the YWA's annual report (YWA, 2019).

The Tribe has recently tested groundwater quality for asbestos, inorganics, nitrate and nitrite, pesticide synthetic organic compounds and volatile organic compounds as part of their monitoring schedule under the direction of the EPA. These tests were conducted on March 5 and September 10, 2020. A separate test for dibromochloropropane was conducted on November 5, 2020. These tests all yielded results below EPA standards for drinking water.

Wastewater Treatment and Disposal

The Tribe operates an on-site WWTP located on trust land. The WWTP is regulated by the USEPA's Office of Wastewater Management. The WWTP is a tertiary treatment facility that has been enhanced for denitrification, the facility utilizes a membrane bioreactor treatment system and two UV disinfection arrays before being stored as effluent. A full description of the tertiary treatment WWTP can be found in **Appendix E**. The Resort currently generates a total average daily flow of approximately 68,030 gallons per day (gpd) of treated wastewater. Due to the onset of restrictions following COVID-19 wastewater production was significantly lower from March through November 2020 than the previous months of production of November 2019 through February 2020. An adjustment value of 15 percent was added to each of the months impacted by restrictions (February to November 2020) to place a conservative estimate on waste water generated. The current WWTP is built for an average treatment capacity of 141,000 gpd and a peak treatment capacity of 175,000 gpd (**Appendix E**). The Tribe utilizes on-site recycling of treated wastewater for landscape irrigation and toilet and urinal flushing in Resort restrooms, excess treated wastewater that cannot be recycled through irrigation and toilet flushing is stored off-site and utilized for agriculture under state Title 22 permitting.

WWTP Effluent

Although operation of the WWTP by the Tribe is on trust land and is therefore regulated by the USEPA, treated effluent is applied to both fee and trust lands. Treated effluent used on the fee land (landscape irrigation) meets the Title 22 standards. Throughout the operational stages of the WWTP, effluent water quality is monitored by the Tribe, and that quality meets all USEPA requirements as well as the CVRWQCB requirements for the storage and use of recycled water on adjacent agricultural land owned by the neighboring property owner.

3.7.3 IMPACT ANALYSIS

Significance Criteria

The following criteria are established by the Environmental Impact Analysis Checklist attached to the Procedures as Appendix B (Checklist) (**Appendix A**) and are used in this section to evaluate the potential off-reservation environmental impacts of the Proposed Project on off-reservation hydrological resources and water quality. Such an impact is considered significant if it would:

- Violate any off-reservation water quality standards or WDRs;
- Substantially deplete off-reservation groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation off reservation;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding off reservation;
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff off reservation;
- Place within a 100-year flood hazard area structures that would impede or redirect off-reservation flood flows; and/or
- 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.

Methodology

The following impact analysis identifies off-reservation surface water, groundwater, water quality, and flooding issues that would potentially be affected or created by construction and operation of the Proposed Project. The impact analysis compares existing conditions to foreseeable changes to these off-reservation conditions that would likely result from implementation of the Proposed Project. Off-reservation water quality impacts were assessed by comparing projected quality of discharges from the implementation of the Proposed Project to the existing water quality of both off-reservation surface water and groundwater resources.

Impact 3.7.1: The Proposed Project would not violate any water quality standards or WDRs.

Treated wastewater generated from the Proposed Project would be utilized as recycled irrigation water (on-site landscaping) and for toilet and urinal flushing at the Resort. Excess treated wastewater is used for agricultural irrigation on adjacent lands. Treated wastewater from the WWTP is generally of good quality, meeting the Title 22 standards for recycled water.

Under the Proposed Project, additional treated wastewater from the WWTP attributable to the Proposed Project that could not immediately be used for landscape irrigation or for toilet flushing would

be stored in an agricultural detention basin for later agronomic use. The Proposed Project would increase the total recycled water available for on-site landscaping irrigation and adjacent agricultural irrigation; therefore, ground water used for irrigation would be reduced due to the increased availability of recycled water. The Proposed Project would not require improvements to the WWTP, the Proposed Project will stay in continued compliance with CVRWQCB and USEPA regulations and would comply with applicable water quality standards and WDRs. Therefore, the impact would be less than significant.

Impact 3.7.2: The Proposed Project would not substantially deplete off-reservation groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table (e.g., cause the production rate of pre-existing nearby wells to drop to a level that would not support existing land uses or planned uses for which permits have been granted).

The Proposed Project would increase the Resort water demand by 12 percent to an average water demand of 136,830 gpd (or 153.3 acre-feet per year) of groundwater, and maximum day water demand is estimated at 162,830 gpd (or 182.4 acre-feet per year). These numbers are based on estimates for a daily operation of the Proposed Project and serve as a conservative measure, the Proposed Project will likely operate 2 to 3 days per week and result in a lower water demand than accounted for. Based on the presence of the large and productive groundwater basin underlying the Project Site, the capacities of neighboring production wells, and the historic and current use of the Project Site for irrigation, obtaining a firm water supply of 136,830 gpd would not significantly impact the basin.

The Proposed Project's average water demand of approximately 153.3 acre-feet per year, even when added to the neighboring Amphitheater's estimated average demand of 150 acre-feet per year, is well below the estimated 1,000 acre-feet per year natural groundwater inflow in the area. Additionally, the Yuba County Integrated Regional Water Management Plan (IRWMP, 008) projects an annual growth in water demand for the South Yuba Groundwater Basin of approximately 12.5 percent (or 2,750 acre-feet per year). The average water demand of the Proposed Project represents approximately 5 percent of that growth. Furthermore, the South Yuba Groundwater Sub-basin is expected to have a net reduction in groundwater usage once the Yuba County Water Agency completes design and construction of a canal to deliver surface water to the Wheatland Water District, which currently relies solely on groundwater. A Regional Water Recycling Project is also underway that may develop a recycled water source that could be used to offset urban irrigation water demands or agricultural demands for the region in which the Project Site is located. These potential recycled water supply opportunities were not included in the Yuba County IRWMP (IRWMP, 2008).

Therefore, based on the presence of the large and productive groundwater basin underlying the Project Site, the capacities of neighboring production wells, the historic and current use of the Project Site for irrigated agriculture, and information contained in the Yuba County Integrated Regional Water Management Plan, obtaining a firm water supply of 136,380 gpd (or 153.3 acre-feet per year) would not significantly impact the basin. This is a less-than-significant impact.

Impact 3.7.3: Construction of the Proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of a course of a stream or river, in a manner that would result in substantial erosion or siltation off site, or provide substantial additional sources of polluted runoff off reservation, but could result in off-reservation siltation from erosion or polluted off-reservation runoff.

Construction of the Proposed Project would involve earth-moving, grading, and excavation activities within Project Site. Fill material will be trucked in from an off-site location in order to construct the Proposed Project. Open excavations and stockpiled soils that are not properly covered would be exposed to erosion by stormwater. Erosion increases sediment discharge to off-reservation surface waters during storm events and could result in off-site siltation.

The equipment and materials used during construction have the potential to leak fluids, thereby discharging pollutants into stormwater. Construction site pollutants typically include particulate matter, sediment, oils and greases, concrete, paints, and adhesives. Discharge of any of these pollutants could result in contamination of off-reservation drainages and, ultimately, Kimball Creek. Because construction and excavation activities associated with the components of the Proposed Project have the potential to result in off-reservation soil erosion, siltation, and contamination of stormwater, which could lead to adverse environmental consequences, this is a potentially significant impact.

With the implementation of **Mitigation Measure 3.7-1**, which requires compliance with the USEPA's General NPDES Construction Permit and implementation of a SWPPP, the Proposed Project would have a less-than-significant impact on off-reservation water quality and runoff rates from drainage, erosion, and runoff from the Proposed Project.

Impact 3.7.4: Construction of the Proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding off site.

The Proposed Project would take place on existing asphalt parking areas on the north side of the existing main Resort building. For the development on existing paved areas, post-project runoff rates and volumes would be nearly identical to current runoff conditions. With the available capacity of the existing drainage system, the minimal increase in stormwater runoff from the implementation of the Proposed Project would not result in off-reservation flooding. This is a less-than-significant impact.

Impact 3.7.5: The Proposed Project would not place within a 100-year flood hazard area any structure, and therefore would not impede or redirect off-reservation flood flows.

The Proposed Project would not result in any development within a FEMA-defined 100-year floodplain. Therefore, flood flows would not be impeded or redirected as a result of implementation of the Proposed Project. No impact would occur.

Impact 3.7.6: The Proposed Project would not 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 dam or levee.

The Proposed Project would not result in any development within a FEMA-defined 100-year floodplain. No flood control dams or levees are located within the vicinity of the Project Site. Therefore, the Proposed Project would not result in any disturbance or other changes to a dam or levee. The Proposed Project would not result in substantial additions of surface water to the watershed that would potentially affect downstream levees or other flood control devices. The Proposed Project is not within a dam inundation area (Yuba County, 2011). Therefore, the Proposed Project would not result in or contribute to increased risk of flooding, including flooding as a result of failure of a dam or levee.)

3.7.4 MITIGATION MEASURES

The following mitigation measures are recommended to mitigate specific impacts identified in this TEIR:

3.7-1 Stormwater General NPDES Permit for Construction Activities. The Tribe shall comply with the terms of the USEPA's Stormwater General NPDES Permit for Construction Activities prior to and during construction of the Proposed Project. As part of its compliance with that permit, the Tribe shall prepare and implement a SWPPP for construction activities. The SWPPP shall identify pollutant sources that may affect the quality of stormwater discharge. The SWPPP shall include site-specific BMPs to reduce these pollutants and minimize the potential for their release into natural waters. BMPs may include, but are not limited to, the following:

A. If excavation occurs during the rainy season, stormwater runoff from the construction area shall be regulated through a stormwater management/erosion control plan that shall include temporary on-site silt traps and/or basins with multiple discharge points to natural drainages and energy dissipaters. Stockpiles of loose material shall be covered and runoff diverted away from exposed soil material. If work stops due to rain, a positive grading away from slopes shall be provided to carry the surface runoff to areas where flow would be controlled, such as the temporary silt basins. Sediment basins/traps shall be located and operated to minimize the amount of off-reservation sediment transport. Any trapped sediment shall be removed from the basin or trap and placed at a suitable location onsite, away from concentrated flows, or removed to an approved disposal site.
B. Temporary erosion control measures (such as fiber rolls, staked straw bales, detention basins, check dams, geo fabric, sandbag dikes, and temporary revegetation or other ground cover) shall be provided until perennial revegetation or landscaping is established and can minimize discharge of sediment into nearby waterways. For construction within 500 feet of a water body, appropriate erosion control measures shall be placed upstream adjacent to the water body.
C. No disturbed surfaces shall be left without erosion control measures in place during the spring and winter months.
D. Hazardous materials such as fuels and solvents used on the construction site shall be stored in covered containers and protected from rainfall, runoff, vandalism, and accidental release to the environment. All stored fuels and solvents shall be contained in an area of impervious surface with containment capacity equal to the volume of materials stored.

E. A stockpile of spill cleanup materials shall be readily available at all construction sites. Construction workers shall be trained in spill prevention and cleanup, and individuals shall be designated as responsible for prevention and cleanup activities.
F. Equipment shall be properly maintained in designated areas with runoff and erosion control measures to minimize accidental release of pollutants.

3.8 LAND USE AND POPULATION AND HOUSING

This section describes the existing off-reservation land use and population and housing, discusses potential off-reservation impacts of the Proposed Project on those resource areas, and recommends mitigation measures to reduce any potentially significant off-reservation impacts land use and population and housing.

3.8.1 REGULATORY SETTING

State and Local

The Project Site is located on trust land and is not subject to state or local land use controls. However, such controls apply to off-reservation land in the vicinity of the Project Site.

Yuba County 2030 General Plan

The *Yuba County 2030 General Plan* (General Plan), adopted in June 2011, is the guiding document for development of the unincorporated areas of the Yuba County (County), which include the off-reservation vicinity of the Proposed Project (Yuba County, 2011). The Housing Element was subsequently updated in January 2014 (Yuba County, 2014). The General Plan does not apply to the trust land on which the Proposed Project would be located or to the Proposed Project itself. Relevant goals, policies, and implementation measures in the General Plan related to off-reservation land use and housing in the vicinity of the Proposed Project include the following (Yuba County, 2011a).

Community Development Element

Goal CD3 Separating Land Uses: Development patterns that minimize the adverse effects of incompatible land uses

Policy CD3.1 Commercial and industrial developments shall be located, buffered, or otherwise designed to avoid significant noise and air quality impacts.

Policy CD3.5 Prior to approval, new developments are required to demonstrate consistency with established standards for setbacks from landfills, airports, sewage treatment plants, and other similar uses, as applicable.

Goal CD8 Pedestrian Orientation and Design: Promote high-quality neighborhood design that ensures pedestrian comfort and convenience

Policy CD8.5 New developments shall be designed so that parking areas and garages are not the dominant visual element of site frontage.

Policy CD8.12 The County will review and condition approval of nonresidential, multi-family, and large single-family projects for compliance with General Plan policy and applicable design guidelines. Large single-family projects are those that propose more than 10 units.

Goal CD9 Rural Areas: Preserve and enhance the rural character through development and conservation in Yuba County's Rural Communities and open space areas

Policy CD9.2 Rural development should be located and designed to preserve and provide buffers around native oak trees and other healthy and attractive native vegetation, cultural

resources, biological features, mineral deposits, active agricultural operations, unique landforms, historic structures and landscapes, and other natural resources.

Policy CD9.3 Development in Rural Communities can have a different set of construction standards than used for valley areas for streets, sidewalks, drainage, and other improvements, consistent with the rural character.

Policy CD9.5 Rural Communities provide the opportunity for agriculture, agricultural tourism, ecological tourism, recreational, and other economic activities.

Policy CD9.8 The allowable density, design, and lot configuration of rural developments will depend on soil and geologic characteristics, biological resources, aesthetic resources, cultural resources, circulation, fire safety, and other factors identified throughout this General Plan.

Goal CD10 Jobs and Housing Balance: Improved match between local jobs and the size, skills, and interests of the local labor force, with a goal of accommodating 0.8 total local jobs for every member of the labor force by 2030

Policy CD10.1 The County will encourage development that improves the balance between local jobs and housing, including new commercial, industrial, home-based businesses, business incubators, and other development that generates net revenues for the County and produces local jobs.

Policy CD10.2 Developments that directly provide a substantial economic benefit, through the creation of high-quality jobs for local residents or affordable housing, will enjoy flexible development standards, entitlement review, and, if feasible, reduced development impact fees.

Goal CD11 Quality of Life and Local Advantages: Provide a high local quality of life and take advantage of the County's economic and natural assets in order to attract employment

Policy CD11.5 The County will support agriculture, agricultural processing, agricultural tourism, ecological tourism, recreational uses, and other natural-resource based economic development projects in areas with land-based natural resources, natural beauty, and cultural attractions.

3.8.2 ENVIRONMENTAL SETTING

Land Use

Project Site

The Project Site currently contains commercial land uses, including the Resort's existing gaming, dining, hotel facilities, other entertainment amenities, and associated parking areas. Additional facilities are also located on the Project Site, including an on-site water treatment facility and a wastewater treatment plant, all of which are owned and operated by the Tribe.

Surrounding Off-reservation Area

Figure 3.8-1 provides the County zoning designations and trust status of off-reservation parcels surrounding the Project Site. County zoning designations for off-reservation parcels located near the Project Site are Sports Entertainment District (SE), Industrial Commercial District (IC), Exclusive Agricultural District (AE), and Employment Center District (EC). The Project Site is situated within a zoning designation of SE, which was uniquely designated by a community vote for the intention of constructing entertainment facilities. This zoning designation extends south of the Project Site to include the operational Toyota Amphitheater. North and east of the Project Site are designations of IC and EC, respectively, which were designated by a community vote and intended to eventually consist of land uses related to the SE designation.

Agriculture, low-density rural residential housing, grasslands, and light industrial characterize the off-reservation lands in the vicinity of the Project Site. The AE zoning that comprises much of the unincorporated areas of Yuba County establishes agricultural preserves in order to conserve the County's economic resources that are vital for a healthy agricultural economy within the County (Yuba County, 2017). Lands located immediately west of the Project Site include a privately owned residential/ranch complex that consists of multiple large barns and grain silos along Forty Mile Rd and is zoned AE. North of the Project Site (south of Kimball Creek) is the northern overflow parking lot in lease by the Tribe and is zoned SE. Privately owned dry pastures and open grazing land are located directly east and southeast of the Project Site. An unnamed dirt road borders the Project Site to the south.

Agriculture

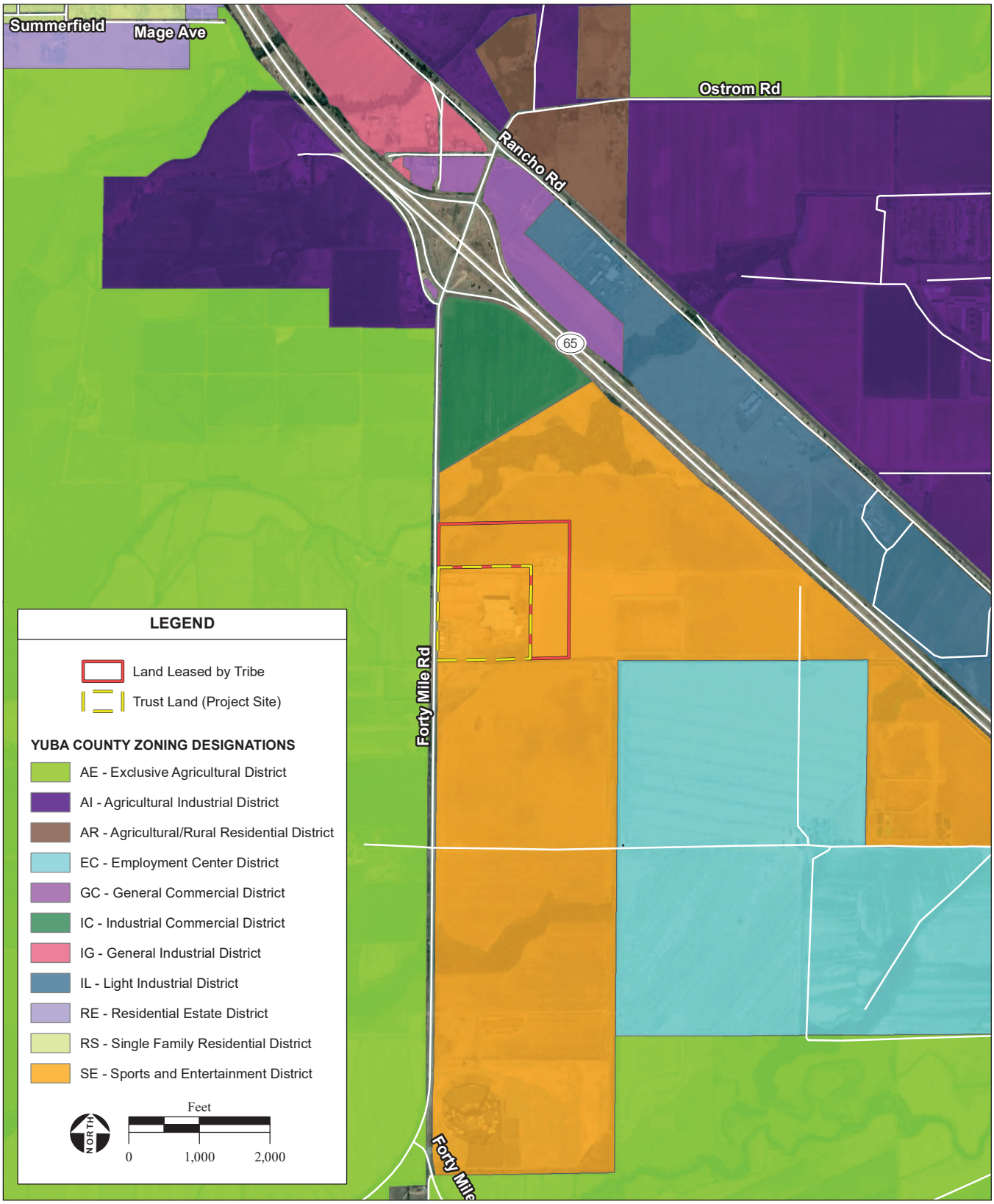
Prime farmland is defined by the U.S. Department of Agriculture as "land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses" (NRCS, 2000). Cropland and grazing lands account for approximately 60 percent of the County's total land area and most of the County's prime farmland is located on the valley floor (Yuba County, 2011a). Agricultural land is rated as prime or non-prime using the Natural Resources Conservation Service (NRCS) categories discussed in **Section 3.8.1**. The NRCS provides data regarding the types of soils that may be considered prime farmland. There are no prime agricultural soils on the Project Site, and the nearest prime agricultural soils to the Project Site are located on land immediately west of Forty Mile Rd (**Figure 3.8-2**).

Open Space

Open Space lands in the County include agricultural lands (cropland, grazing, and processing areas), wetlands and riparian areas, grasslands, woodlands, and forests (Yuba County, 2011a). Many of these lands surround the Project Site, most specifically croplands and grazing lands. These types of lands provide many beneficial uses, including but not limited to, habitat preservation, water and air quality protection, recreation, ecological tourism, and other public purposes (Yuba County, 2011a).

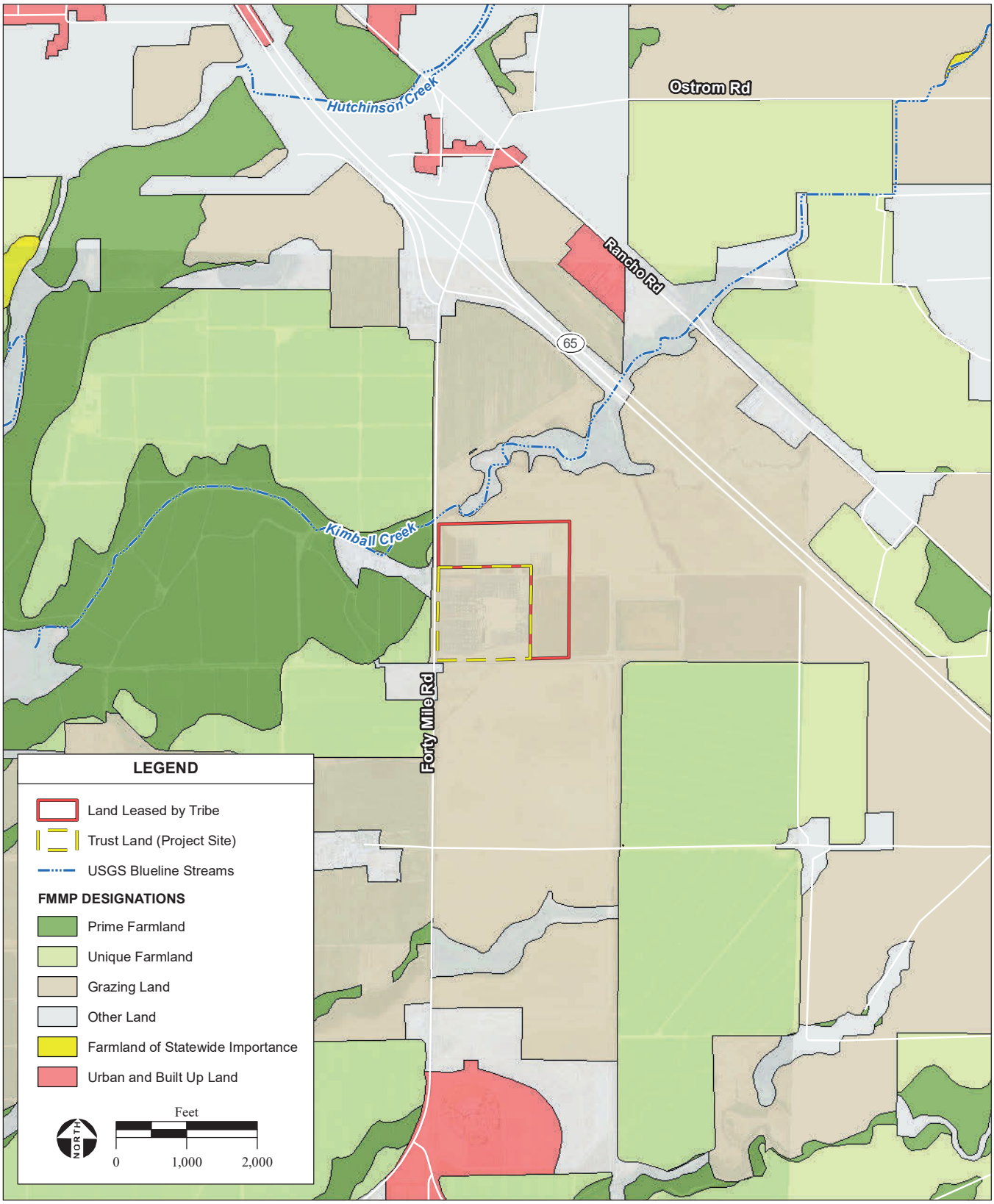
Population

Table 3.8-1 shows population estimates for the County overall, unincorporated portions of the County, and the state in 2010 and 2020. The unincorporated portions of the County had a 2010 population of 56,627, approximately 78.5 percent of the total population of the County. Over the 10-year period from 2010 to 2020, the population of the County grew at a rate of 0.93 percent per year, which was slightly greater than the State average over the same period, while the unincorporated portions of the County grew at a rate of 1.1 percent per year, a rate greater than the County average and the State average.



SOURCE: Yuba County GIS, 2020; AES, 3/3/2021

Figure 3.8-1
Surrounding Zoning Designations



SOURCE: CA Dept. of Conservation, Farmland Mapping and Monitoring Program (FMMP), 2018; Yuba County GIS, 2020; AES, 2/24/2021

Figure 3.8-2
Farmland Designations

TABLE 3.8-1. REGIONAL POPULATION

Location	2010	2020	Trend (% change per year)
Unincorporated Yuba County	56,627	62,822	+1.1
Yuba County Total	72,155	78,887	+0.93
California	37,253,956	39,782,870	+0.68
Source: DOF, 2020.			

Housing

Existing Yuba County Housing

A variety of residential units are currently located throughout the County. **Table 3.8-2** shows a comparison of housing units and vacancy estimates for Yuba County, the unincorporated portions of the County, and the state in 2010 and 2020. As of January 1, 2020, the County housing market consisted of 29,059 units, of which 7.6 percent (2,208 units) were vacant (DOF, 2020). The housing units in the unincorporated portions of the County represent 77.4 percent of the total units within the County. The unincorporated portions of the County had a vacancy rate greater than the County and State. Over the 10-year period from 2010 to 2020, the number of housing units in the County grew at a rate of 0.52 percent per year, which was greater than the average growth in the number of housing units in the state over the same period (0.48 percent per year), while the number of units in the unincorporated portions of the County grew at a rate of 0.66 percent per year. Over the same 10-year period, the percentage of housing units in the County that were vacant decreased to 7.6 percent, just above the state average of 7.4 percent (DOF, 2020). Over the 10-year period from 2010 to 2020, the number of housing units in Wheatland grew at a rate of 0.13 percent per year. As of January 1, 2020, the Wheatland housing market consisted of 1,340 units, of which 3.6 percent (48 units) were vacant (DOF, 2020).

TABLE 3.8-2. REGIONAL HOUSING STOCK

Location	2010		2020	
	Total Units	Vacant (%)	Total Units	Vacant (%)
Unincorporated Yuba County	21,116	12.8	22,505	8.0
Yuba County	27,635	12	29,059	7.6
Wheatland	1,323	7.9	1,340	3.6
California	13,670,304	8.1	14,329,863	7.4
Source: DOF, 2020.				

Resort Employee Residences

Most of the Resort's current employees reside in County including nearby towns, such as Marysville, Wheatland, Olivehurst, and Plumas Lakes.

Employment

Yuba County Employment

From 2015 through 2019, County maintained an average labor force of approximately 28,760 people. Of these, approximately 2,317 (7.4 percent) were unemployed, which was slightly higher than the unemployment rate for the state (6.1 percent) during the same period (EDD, 2021; US Census, 2019).[1] By February 2020, County had a labor force of 30,900 people. Of these, approximately 2,100 (6.9 percent) were unemployed, which was higher than the unemployment rate for the state (3.9 percent) during the same period (EDD, 2021; BLS, 2020).

Resort Employment

Currently, approximately 1,106 employees are employed by the Resort (HRHCR, 2021).

3.8.3 IMPACT ANALYSIS

Significance Criteria

The following criteria are established by the Environmental Impact Analysis Checklist attached to the Procedures as Appendix B (Checklist) (**Appendix A**) and are used in this section to evaluate the potential off-reservation environmental impacts of the Proposed Project on off-reservation land use and population and housing. Such an impact is considered significant if it would:

- 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;
- Conflict with any applicable habitat conservation plan (HCP) or natural communities conservation plan (NCCP) covering off-reservation lands;
- Induce substantial off-reservation population growth;
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere off-reservation

Methodology

The following analysis identifies potential off-reservation environmental impacts of the Proposed Project related to land use and population and housing. The impact analysis compares existing conditions described above to foreseeable changes to existing conditions that would be likely to result from implementation of the Proposed Project.

The evaluation of off-reservation environmental impacts in this section consisted of the following:

- Field observations;
- Review of planning documents; and
- Review of site plans for and infrastructure improvements associated with the Proposed Project.

[1] Due to the on-going global COVID-19 pandemic, employment data obtained after March of 2020 was not considered to be reflective of "normal" conditions. Therefore, only years prior to 2020 were used to establish baseline conditions.

Impact 3.8.1: The Proposed Project would not conflict with any off-reservation land use plan (including any HCP or NCCP), policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect.

Currently, there are no HCPs or NCCPs in effect in County; however, the County is in the process of preparing the Yuba-Sutter Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). Any such plan adopted by a state or local governmental agency would not apply to the trust land on which the Proposed Project would be built. While the General Plan does not apply to the Project Site, it does apply to off-reservation land uses. The Proposed Project would not result in changes to off-reservation land use and, as such, would remain consistent with the General Plan. The Proposed Project would be built and operated entirely on the trust land, and would not change the current use of the Project Site or any off-reservation land use. No impacts on off-reservation land use plans, policies, or regulations would occur as a result of the Proposed Project.

Impact 3.8.2: The Proposed Project would not induce substantial off-reservation population growth, nor would it displace any existing housing; therefore, the Proposed Project would not necessitate the construction of off-reservation housing.

The Proposed Project is anticipated to generate approximately 45 new positions at the Resort (HRHCR, 2021). Current residents of the region are available to fill the new positions generated by the Proposed Project and, in the Tribe's experience, are by far the most likely candidates to apply. Furthermore, new positions created during construction of the Proposed Project would be expected to employ residents of the region as well.

In February 2020, the County had an average labor force of approximately 30,900 people (EDD, 2021). Of these, approximately 2,100 people (6.9 percent) were unemployed. Therefore, the existing labor pool is sufficient to fill all 45 new positions generated by the Proposed Project. Substantial numbers of people are not required or anticipated to move to the County to fill the jobs. The Proposed Project would not be anticipated to result in substantial off-reservation population growth.

Because substantial off-reservation population growth is not anticipated as a result of the Proposed Project, the Proposed Project would not necessitate the construction of new off-reservation housing. Furthermore, as of January 2020 there were approximately 2,208 vacant housing units throughout the County, including approximately 48 vacant housing units in Wheatland (DOF, 2020). Therefore, even if the Proposed Project were to hire new employees that do not already reside in County and elected to move to County, there would be a sufficient amount of existing vacant housing units to accommodate all of the Proposed Project's new employees, and new housing would not be required as a result of the Proposed Project.

Finally, there is no existing housing on the Project Site, and housing would not be constructed under the Proposed Project. Therefore, the Proposed Project would not displace any existing housing, nor would it necessitate the construction of new off-reservation housing. This impact is less than significant.

3.9 NOISE

This section addresses the off-reservation environment associated with noise, discusses potential impacts of the Proposed Project on the off-reservation ambient noise levels environment, and recommends mitigation measures to reduce any potentially significant off-reservation impacts on ambient noise levels.

3.9.1 REGULATORY SETTING

Federal

Federal regulations establish noise limits for medium and heavy trucks (defined as a vehicle weighing more than 5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR) 205 (B). The federal truck pass-by noise standard is 80 decibels (dB) at 15 meters (approximately 50 feet) from the vehicle pathway centerline. Federal regulations governing truck manufacturing implement these controls.

The U.S. Department of Housing and Urban Development (HUD) provides noise standards to encourage the control of noise at its source in cooperation with other federal departments and agencies, and to encourage land use patterns for housing and other noise-sensitive urban needs that will provide a suitable separation between them and major noise sources. HUD considers an acceptable noise level for residential units to be 65 dB, but has a goal for exterior noise levels to not exceed a day-night average sound level of 55 dB (24 CFR Part 51).

The Federal Interagency Committee on Noise (FICON) provides guidance in how to assess noise impacts resulting from aircraft operations, shown in **Table 3.9-1** below. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these criteria have been applied to other sources of noise similarly described in terms of cumulative noise exposure metrics.

TABLE 3.9-1. SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE LEVELS

Ambient Noise Level Without Project, L_{dn}	Increase Required for Significant Impact
< 60 dB	+ 5.0 dB or more
60 to 65 dB	+ 3.0 dB or more
> 65 dB	+ 1.5 dB or more
Source: FICON, 1992.	

State and Local

The Proposed Project is located on federal trust land and is therefore not subject to state or local controls concerning noise. However, such controls apply to off-reservation land in the vicinity of the Proposed Project.

The State of California establishes noise limits for vehicles licensed to operate on off-reservation public roads. For heavy trucks, the State pass-by noise standard is equal to the federal standard (80 dB). The State pass-by standard for light trucks and passenger cars (defined as a vehicle weighing less than 3 tons, gross vehicle weight rating) is also 80 dB at 15 meters (approximately 50 feet) from the centerline. These standards are implemented in two ways: (1) controls on vehicle manufacturers; and (2) legal

sanctions from state and local law enforcement officials against off-reservation vehicle operators in violation of the standards.

The State also has established noise insulation standards for new off-reservation multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an off-reservation interior day-night average noise level (L_{dn}) standard of 45 dB in any habitable room. They require an acoustical analysis demonstrating how off-reservation dwelling units have been designed to meet this interior standard where such units are proposed in off-reservation areas subject to noise levels greater than 60 dB Ldn.

Yuba County 2030 General Plan

The *Yuba County 2030 General Plan* (General Plan), adopted in 2011, is the comprehensive guiding document for development and conservation in the unincorporated areas of the County, which include the off-reservation properties in the vicinity of the Proposed Project. The General Plan does not apply to the trust land on that the Proposed Project would be located or to the Proposed Project itself. Policies in the General Plan that are relevant to the off-reservation noise conditions in the vicinity of the Proposed Project include the following:

Public Health and Safety Element

Goal HS4 Avoid land use conflicts with, and reduce exposure of people and property to risks from the County's airports.

Policy HS4.1 The County will collaborate with the Airport Land Use Commission to update local airport land use compatibility plans and will condition projects, as necessary, to ensure compliance with these plans.

Policy HS4.3 New construction within the air Installation Compatibility Use zone 65 dB Community Noise Equivalent Level (CNEL) noise contours for the existing and potential future missions shall use building materials and construction techniques to mitigate noise impacts.

Goal HS10 Ensure that noise does not substantially reduce the local quality of life.

Policy HS10.1 New developments that generate traffic or are affected by traffic noise shall provide design and mitigation, if necessary, to ensure acceptable daytime and nighttime land use/noise environment at outdoor activity areas of affected properties, as defined in Table Public Health & Safety-1 [represented in **Table 3.9-2**)

TABLE 3.9-2. MAXIMUM NOISE EXPOSURE FROM TRANSPORTATION NOISE SOURCES AT NOISE SENSITIVE LAND USES

Land Use	Interior Spaces		Outdoor Activity Areas (dBA L_{dn})						
	dBA L_{dn}	dBA L_{eq}	55	60	65	70	75	80	
Residences	45	-							
Hotels, Motels	45	-							
Schools, Libraries, Museums, Places of Worship, Hospitals, Nursing Homes	45	45							
Theaters, Auditoriums, Concert Halls, Amphitheaters	35	-							
Outdoor Spectator Sports,	-	-							
Playground, Parks	-	-							
Golf Courses Riding Stables, Water Recreation, Cemeteries	-	-							
Office Buildings, Retail, and Commercial Services	45	-							
Industrial, Manufacturing, Utilities, Agriculture	-	-							



Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise requirements

Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.

Clearly Unacceptable – New construction or development clearly should not be undertaken.

Note: dBA - A-weighted decibel; L_{eq} energy-equivalent noise level; L_{max} = maximum noise level.
This table does not apply to existing transportation noise sources affecting existing land uses. Outdoor activity areas are the portion of a property where activities are normally expected. This would include portions of backyards, decks, balconies, pools, sports or game courts, and patios, but would not include front yards, spaces next to parking, roads, driveways, or vehicular loading areas. Hospitals and nursing homes use the L_{dn} interior standard, whereas schools, libraries, museums, and places of worship use L_{eq}, interior standard. Office buildings have an interior standard, but retail and commercial services use do not have an interior standard.

Source: Yuba County, 2011 (specially Table Public Health & Safety-1).

Policy HS10.2 If existing noise levels exceed the acceptable levels listed in Table Public Health & Safety-1, new developments are required to incorporate mitigation to reduce noise exposure in outdoor activity areas to the maximum extent feasible and include mitigation designed to achieve acceptable interior noise levels, as defined in Table Public Health & Safety-1.

Policy HS10.3 New developments that would generate or be affected by non-transportation noise shall be located, designed, and, if necessary, mitigated below maximum levels specified in Table Public Health & Safety-2 [represented in **Table 3.9-3**], as measured at outdoor activity areas of affected noise-sensitive land uses.

TABLE 3.9-3. MAXIMUM NOISE EXPOSURE FROM NON-TRANSPORTATION NOISE SOURCES AT NOISE SENSITIVE LAND USES

Noise Level Descriptor	Daytime (7 a.m. – 10 p.m.)	Nighttime (10 p.m. – 7 a.m.)
Hourly L_{eq}	60 dBA	45 dBA
L_{max}	75 dBA	65 dBA

Note: dBA - A-weighted decibel; L_{eq} energy-equivalent noise level; L_{max} = maximum noise level.
Each of the noise levels specified shall be lowered by 5 dBA for simple tone noises, noises consisting of primarily speech, music, or for recurring impulsive noises. These noise-levels standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g. caretaker dwellings). Noise-sensitive land uses include schools, hospitals, rest homes, long-term care facilities, mental care facilities, residences, and other similar land uses.

Source: Yuba County, 2011 (specifically Table Public Health & Safety-2).

Policy HS10.4 If existing noise levels exceed the maximum allowable levels listed in Table Public Health & Safety-2 [**Table 3.9-3**], projects are required to incorporate mitigation to reduce noise exposure in outdoor activity areas to the maximum extent feasible and include mitigation to achieve acceptable interior noise levels, as defined in Table Public Health & Safety-1.

Policy HS10.5 The Maximum noise level shall not exceed the performance standards shown in Table Public Health & Safety-3 [represented in **Table 3.9-4**], as measured at outdoor activity areas of any affected noise-sensitive land use except:

- If the ambient noise level exceeds the standard in Table Public Health & Safety-3 [**Table 3.9-4**], the standard becomes the ambient level plus 5 dBA.
- Reduce the applicable standards in Table Public Health & Safety-3 [**Table 3.9-4**] by 5 db if they exceed the existing ambient level by 10 or more dBA.

Policy HS10.6 New Developments shall provide all feasible noise mitigation to reduce construction and other short-term noise and vibration impacts as a condition of approval.

Policy HS10.7 New development shall ensure that construction equipment is properly maintained and equipped with noise control components, such as mufflers, in accordance with manufacturers' specifications.

Policy HS10.8 Noise attenuation barriers are strongly discouraged, except to attenuate noise for existing developed uses, and may be used in the context of new developments only when no other approach to noise mitigation is feasible.

TABLE 3.9-4. PERFORMANCE STANDARDS FOR NON-TRANSPORTATION NOISE SOURCES

Cumulative Duration of a Noise Event[1] (Minutes)	Maximum Exterior Noise Level Standards[2]	
	Daytime dBA L_{max}[2,4]	Nighttime dBA L_{max}[3,4]
30–60	50	45
15–30	55	50
5–15	60	55
1–5	65	60
0–1	70	65

Note: dBA - A-weighted decibel; L_{eq} energy-equivalent noise level; L_{max} = maximum noise level.

1. Cumulative duration refers to time within any 1-hour period
2. Daytime = hours between 7:00 a.m. and 10:00 p.m.
3. Nighttime = hours between 10:00 p.m. and 7:00 a.m.
4. Each of the noise level standards specified may be reduced by 5 dBA for tonal noise (i.e. a signal with has a particular and unusual pitch) or for noises consisting primarily of speech for recurring impulsive noises (i.e., sources of short duration, usually less than one second, with an abrupt onset and rapid decay such as the discharge of firearms)

Source: Yuba County, 2011, (specifically Table Public Health & Safety-3)

Policy HS10.9 New developments shall disperse vehicular traffic onto a network of fully connected smaller roadways and minimize funneling of local traffic onto large-volume, high-speed roadways near existing or planned noise-sensitive land uses to the maximum extent feasible.

Policy HS10.10 Proposed noise-generating industrial and other land uses shall be located away from noise-sensitive land uses, shall enclose noise sources, or shall use other site planning or mitigation techniques to ensure acceptable noise levels, to the greatest extent feasible.

Policy HS10.11 Lands within the 65 CNEL noise contour of Beale Air Force Base, Yuba County Airport, and Brownville Airport shall be maintained in agricultural, open space, commercial, industrial, or other uses permitted by the subject airport adopted Comprehensive Land Use Plan and consist with the recommendations of the Beale Joint Land Use Study, including noise contours associated with future hypothetical missions, as appropriate.

Policy HS10.14 Public events, such as school sporting events, festivals, and other similar community and temporary events are exempt from the noise standards outlined in this Element.

Policy HS10.15 New developments that would generate substantial long-term vibration shall provide analysis and mitigation, as feasible, to achieve velocity levels, as experienced at habitat structures of vibration-sensitive land uses, of less than 78 vibration db.

Goal NR3 Provide for long-term, vibrant local agricultural operations

Policy NR3.3 The county will not consider agricultural operations to be a nuisance in cases where new development occurs in areas near ongoing agricultural operations.

Goal NR11 New construction is compatible with, and supportive of locally important aspects of the visual environment.

Policy NR11.2 In new development areas, service, utility, loading areas, roof-mounted equipment, and noise-generating equipment shall be screened, designed, and located to reduce visibility, odor, and noise as experienced at surrounding properties and pedestrian areas.

Yuba County Municipal Code: Chapter 8.20- Noise Regulations

Section 8.20.110 declares the following for the purpose of Chapter 8.20 of the County Municipal Code:

a. In order to control unnecessary, excessive and annoying noise and vibration in the County of Yuba, it is hereby declared to be the policy of the County to prohibit such noise and vibration generated from or by all sources subject to its police power as specified in this Chapter. It shall be the policy of the County to maintain quiet in those areas which exhibit low noise levels and to implement programs aimed at reducing noise in those areas within the County where noise levels are above acceptable limits.
b. It is determined that certain noise levels and vibrations are detrimental to the public health, welfare and safety, and are contrary to public interest. Therefore, the Board of Supervisors does ordain and declare that creating, maintaining, causing or allowing to be created, caused or maintained, any noise or vibration in a manner prohibited by or not in conformity with the provisions of this Chapter is a public nuisance and shall be punishable as such.

Highlights of the Chapter 8.20 include Section 8.20.140 that specifies certain ambient noise levels depending on zoning, which **Table 3.9-5** represents these levels.

Other highlights include Article 3 of Chapter 8.20 that pertains to construction noise. Important measure includes that" it shall be unlawful for any person within a residential zone, or within a radius of 500 feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures, or projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of 10:00 p.m. of one day and 7:00 a.m. of the following day" (Section 8.20.310), and "It shall be unlawful for any person to operate any motor driven vehicle within the County so that it produces noise in such a manner that a reasonable person of normal sensitiveness residing in the area is caused discomfort or annoyance; provided, however, any such vehicle which is in movement upon any public highway, street, or right-of-way shall be excluded from the provisions of this Section" (Section 8.20.320).

TABLE 3.9-5. SECTION 8.20.140 PERMITTED NOISE LEVELS

Zone	Time	Ambient Level	Maximum Noise Level Permitted
Single family Residential	10:00 p.m. to 7:00 a.m.	45	55
	7:00 p.m. to 10:00 p.m.	50	60
	7:00 a.m. to 7:00 p.m.	55	65
Multi-family Residential	10:00 p.m. to 7:00 a.m.	50	60
	7:00 a.m. to 10:00 p.m.	55	65
Commercial -BP	10:00 p.m. to 7:00 a.m.	55	65
Commercial	7:00 a.m. to 10:00 p.m.	60	70
M-1	Anytime	65	75
M-2	Anytime	70	80

3.9.2 ENVIRONMENTAL SETTING

Characteristics of Environmental Noise

Acoustical Background and Terminology

Noise is often defined as unwanted sound. Pressure variations occurring frequently enough (at least 20 times per second) for the human ear to detect are called sounds. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called hertz (Hz). The perceived loudness of sounds depends upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable. The decibel scale measures sound levels using the hearing threshold (20 micropascals of pressure) as the point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum (20 Hz to 20,000 Hz). As a result, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz to better represent the human ear's sensitivity to mid-range frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard method of frequency de-emphasis and is typically applied to community noise measurements. In practice, the level of a sound source is measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve. All of the noise levels reported

herein are A-weighted unless otherwise stated. **Table 3.9-6** shows the most commonly used noise descriptors.

TABLE 3.9-6. DEFINITION OF ACOUSTICAL TERMS

Terms	Definitions
Decibel (dB)	A unit of measurement describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
A-weighted Sound Level (dBA)	The sound level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear and gives good correlation with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	The energy mean (average) noise level. The instantaneous noise levels during a specific period of time in dBA are converted to relative energy values. In noise environments determined by major noise events, such as aircraft overflights, the L_{eq} value is heavily influenced by the magnitude and number of single events that produce the high noise levels.
Community Noise Equivalent Level (CNEL)	An average of 24-hour L_{eq} with a 10 dBA 'penalty' for noise events that occur during noise-sensitive hours of the day (10:00 p.m. to 7:00 a.m.). An additional 5 dBA 'penalty' is added to noise events that occur between 7:00 p.m. to 10:00 p.m.
Day/Night Noise Level (L_{dn})	Day-Night Average Level. The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of 10 dB to sound levels in the night after 10 p.m. and before 7 a.m. (Note: CNEL and L_{dn} represent daily levels of noise exposure averaged on an annual or daily basis while L_{eq} represents the equivalent energy noise exposure for a shorter time period, typically one hour.)
L_{max}	Maximum noise level
Ambient Noise Level	The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.
Intrusive Noise	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence, and tonal or informational content as well as the prevailing noise level.
Source: Governor's Office of Planning and Research, 2017; Yuba County, 2011.	

Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time. **Table 3.9-7** shows examples of noise sources that correspond to various sound levels. The noise levels presented in **Table 3.9-7** are representative of measured noise at a given instant. These levels rarely persist consistently over a long period of time, and community noise levels vary continuously due to the contributing sound sources of the ambient noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure. The background noise level changes throughout a typical day but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short-duration single-event noise sources such as aircraft flyovers, moving vehicles, and sirens, which are typically readily identifiable to an individual. These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the

measurement of noise exposure over a period of time to characterize a community noise environment and evaluate cumulative noise impacts.

TABLE 3.9-7. TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT

Noise Generators (at a Given Distance from Noise Source)	A-Weighted Sound Level in Decibel	Noise Environments	Subjective Impression
Near Jet Engine	140		
	130		Pain Threshold
	120	Rock Music Concert	
Auto Horn (10 feet)	100		Very Loud
	90	Noisy Urban Street	
School Cafeteria	80		Moderately Loud
Freeway Traffic	60		
	50	Department Store	
	30	Quiet Bedroom	Quiet
Whisper	20		
Rustle of Leaves in Wind	10		
	0		Threshold of Hearing
Source: HUD, 2009.			

Nighttime ambient noise levels are typically lower than daytime ambient noise levels. For this reason, and because of the potential for sleep disturbance, people tend to be more sensitive to increased noise levels at night than during the day, and increases in nighttime noise have a far greater impact on the community noise environment than increases in daytime noise.

Effects of Noise on People

The effects of noise on people can be divided into three categories:

1. Subjective effects of annoyance, nuisance, dissatisfaction;
2. Interference with activities such as speech, sleep, and learning; and
3. Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the third category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Generally, most noise is generated by transportation systems, primarily motor vehicles, aircraft, and railroads. Poor urban planning may also give rise to noise pollution because juxtaposing industrial and residential land uses, for example, often adversely affects the residential acoustic environment. Prominent sources of indoor noise are office equipment, factory machinery, appliances, power tools,

lighting hum, and audio entertainment systems. An important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment (or ambient noise) to which one has adapted. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged to be by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur (California Department of Transportation [Caltrans], 2013a):

- Under controlled conditions in an acoustics laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dBA;
- Outside such controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise;
- It is widely accepted that the average healthy ear, however, can barely perceive noise level changes of 3 dBA;
- A change in level of 5 dBA is a readily perceptible increase in noise level; and
- A 10-dBA change is recognized as twice as loud as the original source.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. Noise levels are measured on a logarithmic scale, instead of a linear scale. On a logarithmic scale, the sum of two noise sources of equal loudness is 3 dBA greater than the noise generated by only one of the noise sources (e.g., a noise source of 60 dBA plus another noise source of 60 dBA generates a composite noise level of 63 dBA). To apply this formula to a specific noise source, in areas where existing levels are dominated by traffic, a doubling in traffic volume will increase ambient noise levels by 3 dBA. Similarly, a doubling in heavy equipment use, such as the use of two pieces of equipment where one formerly was used, would also increase ambient noise levels by 3 dBA. A 3-dBA increase is the smallest change in noise level detectable to the average person. A change in ambient sound of 5 dBA can begin to create concern. A change in sound of 7 to 10 dBA typically elicits extreme concern and/or anger.

Noise Attenuation

Stationary “point” sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 to 9 dBA per doubling of distance from the source, depending upon environmental conditions (e.g., atmospheric conditions and noise barriers, either vegetative or manufactured). Widely distributed noises, such as a large industrial facility spread over many acres or a street with moving vehicles (a “line” source), would typically attenuate at a lower rate, approximately 4 to 6 dBA per doubling of distance from the source (also dependent upon environmental conditions) (Caltrans, 2013a). Noise from large construction sites (with heavy equipment moving dirt and trucks entering and exiting the site daily) would have characteristics of both point and line sources, so attenuation would generally range between 4.5 and 7.5 dBA per doubling of distance.

Vibration

The effects of groundborne vibrations typically cause only a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Although groundborne vibration can be felt outdoors, it is typically an annoyance only indoors, where the associated effects of the building shaking can be notable. Groundborne noise is an effect of groundborne vibration and only exists indoors; it is produced from noise radiated from the motion of the walls and floors of a room and may consist of the rattling of windows or dishes on shelves.

Peak particle velocity (PPV) is often used to measure vibration. PPV is the maximum instantaneous peak (inches per second) of the vibration signal. Scientific studies have shown that human responses to vibration vary by the source of vibration, which is either continuous or transient. Continuous sources of vibration include construction, while transient sources include truck movements. Generally, the thresholds of perception and annoyance are higher for transient sources than for continuous sources. Structural damage can occur when PPV values are 0.5 inches per second or greater. Annoyance can occur at levels as low as 0.1 inches per second and become strongly perceptible at approximately 0.9 inches per second (Caltrans, 2013b). **Table 3.9-8** shows PPV vibration levels caused by representative pieces of construction equipment, as published by the Federal Transit Administration (FTA).

TABLE 3.9-8. VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV at 25 feet (inches/second)
Large bulldozer	0.089
Scraper	0.089
Loaded truck	0.076
Jackhammer	0.035
Small bulldozer	0.003
Source: FTA, 2018.	

Sensitive Noise Receptors

Some land uses are considered more sensitive to ambient noise levels than others, sensitivity being a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. Residential land uses are generally more sensitive to noise than commercial and industrial land uses. Other examples of sensitive noise receptors are nursing homes and schools. Existing off-reservation land uses consist primarily of agriculture, which agricultural uses are considered to be noise generating rather than noise sensitive. However, residences constructed on agricultural properties are considered to be noise sensitive.

The nearest off-reservation residential sensitive noise receptor is located approximately 200 feet west of the Project Site boundary, on the western side of Forty Mile Rd. Other residential sensitive receptors are located approximately 1,400 feet south of the Project Site and 3,600 feet north of the Project Site. The nearest school is approximately 1.6 mile south from the Project Site.

Existing Noise Levels and Sources

The off-reservation area surrounding the Proposed Site is primarily agricultural land with scattered residences and small commercial areas. The Project Site is located adjacent to Forty Mile Rd on the western side, and SR-65 is located east and north of the Project Site, approximately 0.5 miles northeast at the closest point to the Project Site. Another road, Plumas Arboga Road, is located approximately 1.55 southwest of the Project Site. Traffic on Forty Mile Rd is the primary source of off-reservation noise in the area with SR-65 the next largest contributor followed by Plumas Arboga Road. For more information regarding these roads and their traffic volumes, please refer to **Section 3.11**, **Transportation/Traffic.** The noise environment at and in the immediate vicinity of the Project Site is influenced by casino activities; heating, ventilation, and air conditioning (HVAC) systems; and noise from surface roads, surface parking areas, and parking structures. To characterize existing ambient noise conditions in the

vicinity of the Project Site, 24-hour continuous noise measurements were conducted at three locations, all within 1-mile of the Project Site boundaries from January 21 to January 22, 2021. SoundPro DL Series Sound Level Meters were used were used for the long-term ambient noise level measurements. The locations of the noise monitoring sites are shown in **Figure 3.9-1**. A summary of the existing noise level measurement results is provided in **Table 3.9-9**, and charts of the long-term measurements are provided in **Appendix I**.

TABLE 3.9-9. EXISTING NOISE ENVIRONMENT

Monitoring Site	Location	Averaged Measured L_{eq} (dBA)	Average Measured L_{dn} (dBA)
A	Near the Resort northern entrance and across the street from the nearest residence	58.3	63.0
B	Just south of a of barn along Forty Mile Rd on the southern side of SR-65	66.8	70.8
C	School south of the Resort	48.7	52.3
Source: **Appendix I**.			

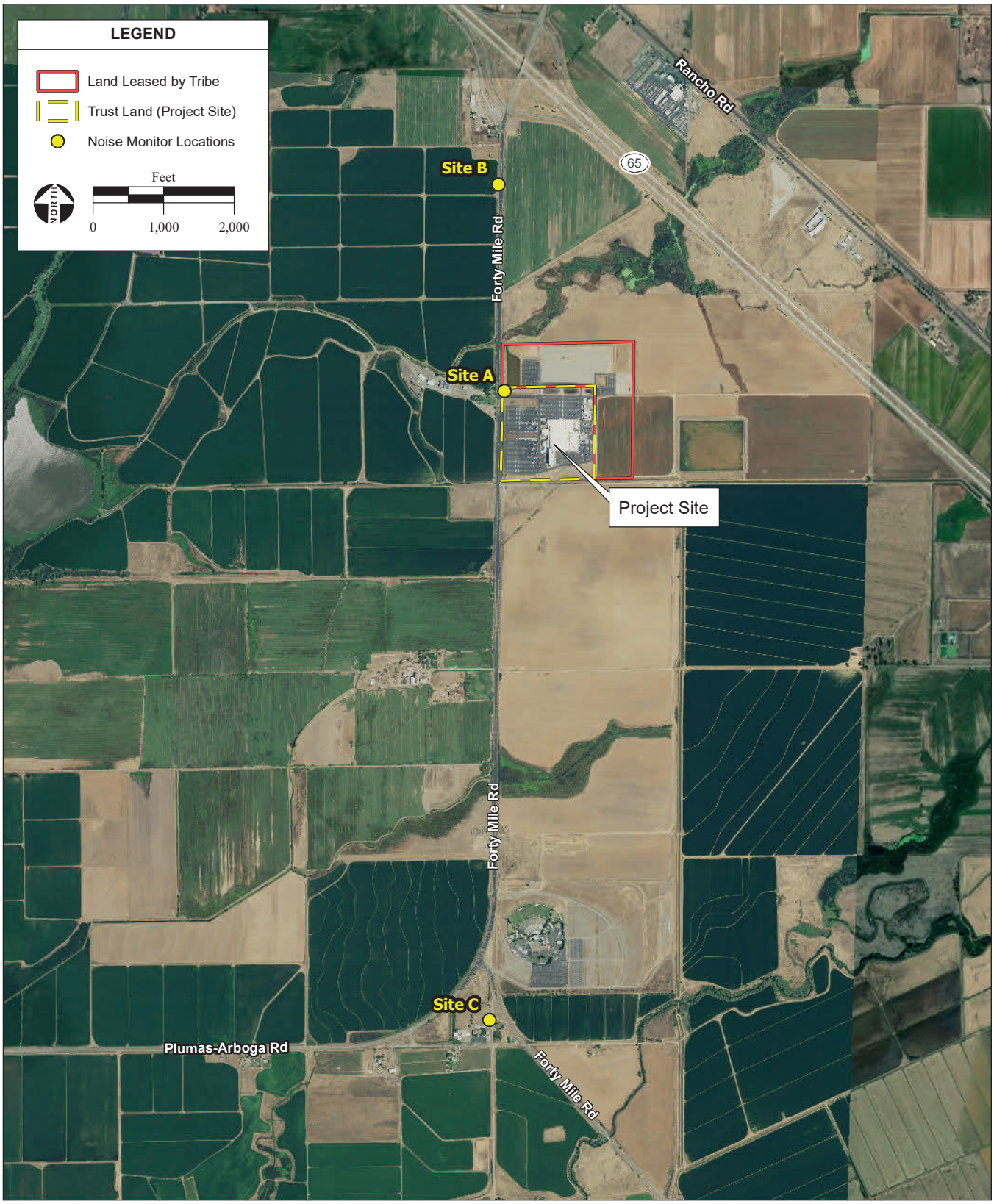
As shown in **Table 3.9-9**, the data indicates that one factor that influences the noise levels near the Project Site is the proximity to SR-65. Overall, the noise measurement results indicate that the vicinity of the Proposed Project is partially dominated by noise from traffic on SR-65. Other sources of noise could be from agriculture or the limited commercial businesses in the area.

The long-term noise measurement results show hourly energy-equivalent noise levels (L_{eq}) between 45 dBA and 70 dBA at Site A, between 54 dBA and 82 dBA at Site B, and between 36 dBA and 60 dBA at Site C (**Appendix I**). Each monitoring site was near a potential sensitive receptor. Furthermore, each measurement is representative of the current ambient noise levels due to existing (and future) traffic patterns on Forty Mile Rd. Site B is representative of the ambient noise generated from SR-65 in addition to Forty Mile Rd while Site C is representative of the ambient noise generated from Forty Mile Rd/Plumas Arboga Road intersection. Finally, Site A is representative of the ambient noise level at both the nearest sensitive receptor and the entrance of the Project Site. Note that Site C is also located near the existing outdoor Toyota Amphitheater, and no events occurred there during the period of monitoring.

There are no known existing sources of vibrations in the vicinity of the Project Site aside from the surrounding agriculture, which generates very minimal vibrations when heavy machinery is used.

Airports and Airport Use Plans

The nearest airport to the Project Site is Yuba County Airport, approximately 3.5 miles northwest of the Project Site. The next nearest airport is the Beale Air Force Base Aero Club Flight Training Center, approximately 6.3 miles northeast of the Project Site. The Project Site is not within the area of influence for both airports and therefore their noise contours (Sacramento Area Council of Governments, 2010; Sacramento Area Council of Governments, 2011).



SOURCE: NAIP aerial photograph, 7/10/2020;
Yuba County GIS, 2020; AES, 2/24/2021

Figure 3.9-1
Noise Monitor Locations

3.9.3 IMPACT ANALYSIS

Significance Criteria

The following criteria are established by Environmental Impact Analysis Checklist attached to the Procedures as Appendix B (**Appendix A**) and are used in this section to evaluate the potential off-reservation impacts of the Proposed Project with respect to ambient noise levels. Such an impact is considered significant if it would:

- 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;
- Exposure of off-reservation persons to excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the off-reservation vicinity of the project; or
- A substantial temporary or periodic increase in ambient noise levels in the off-reservation vicinity of the project.

According to the FICON study, a noise impact from a transportation-related source is considered significant if the incremental increase in noise is greater than 5.0 dBA L_{eq} in a noise environment of 60 dBA CNEL or less, an increase of 3.0 dBA L_{eq} in a noise environment between 60 dBA and 65 dBA CNEL, or an increase of 1.5 dBA L_{eq} in a noise environment greater than 65 dBA CNEL (FICON, 1992). Therefore, for this analysis, if off-reservation transportation noise attributable to the Proposed Project increases the ambient off-reservation noise level by more than 1.5 dBA, 3.0 dBA, or 5.0 dBA, depending on the baseline ambient noise level at each location analyzed, a potentially significant off-reservation impact would occur.

The HUD identifies an acceptable noise threshold as 65 dB for residential noise receptors. According to the County 2030 General Plan land use compatibility table related to traffic and non-traffic noise source noise (**Tables 3.9-2** to **Table 3.9-4**), a community noise exposure equal to or less than 60 dBA L_{dn} at residential land uses is considered normally acceptable. Because the County's significance threshold for residential receptors is lower than the HUD's significance threshold of 65 dBA, for this analysis an audible increase in the day/night noise level to more than 60 dBA L_{dn} at the nearest off-reservation sensitive residential noise receptor is considered to be potentially significant.

For this analysis, excessive groundborne vibrations are defined as those that are equal to or exceed 0.5 PPV at the nearest off-reservation non-residential structure and exceed 0.1 PPV experienced at the nearest off-reservation residence (Caltrans, 2018). Therefore, an off-reservation impact is considered potentially significant if construction or operation of the Proposed Project would result in an increase of 0.5 PPV at the nearest off-reservation non-residential structure or 0.1 PPV at the nearest off-reservation residence.

Methodology

The results of the long-term noise measurements described above were used to calculate off-reservation noise levels from construction and operation of the Proposed Project. Those off-reservation noise levels were then compared to applicable significance thresholds, such those specified in the County 2030 General Plan. Off-reservation traffic volumes related to the Proposed Project and found in the traffic memorandum (**Appendix D**) were compared to existing off-reservation traffic volumes. These

off-reservation traffic volumes include the traffic induced from the Gas Station Project that is anticipated to be operation in the Opening Year (2021). The increase in traffic Federal Highway Administration (FHWA) guidelines were used to determine off-reservation noise levels along roadways in the vicinity of the Project Site.

Impact 3.9.1: The Proposed Project would expose 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.

Construction Noise

Construction could induce increases in the ambient noise levels above acceptable levels set in the County General Plan. Typical construction equipment noise levels are shown in **Table 3.9-10**. The nearest off-reservation noise receptor to the Project Site during construction of the Proposed Project would be a rural residence located 200 feet west, but the nearest construction would occur approximately 800 feet west from this residence. Based on noise measurements at Site A and noise levels listed in **Tables 3.9-10** (reference distance of 50 feet), the maximum noise level at the nearest sensitive receptor during construction of the Proposed Project would be 31 to 66 dBA L_{max}. Given that current average L_{eq} at Site A is 58.3 dBA and that L_{max} was approximately 70.1 dBA (**Appendix I**) and if the construction noise was constant for one hour, L_{eq} would be approximately 63.7 dBA and L_{max} approximately 68.5 dBA[1] with construction. According to **Table 3.9-4**, the L_{max} noise level would not be permissible to last longer than 5 minutes in a given hour in order to be compliant with the County General Plan. Furthermore, according to **Table 3.9-3**, exterior noise levels due to non-traffic sources at sensitive receptors is an hour L_{eq} of 60 dBA. Given that construction could trigger a significant impact if 66.6 dBA L_{max} persisted longer than 5 minutes in any given hour and if the loudest construction noise persisted long enough to increase the hourly L_{eq} to 60 dBA, this is a potentially significant impact. To reduce the potential construction noise related impacts, **Mitigation Measure 3.9-1** will be implemented during construction. This would include measures to reduce overall construction noise to standards that meet the guidance within the County General Plan.

In addition to the construction equipment noise generated during the construction activities, construction would also induce additional traffic that would increase the ambient noise levels along local roadways. As discussed under Impact 3.11.1, the Proposed Project would generate approximately 20 truckloads per week (approximately 4 per a day) after grading activities and have approximately 425 construction workers onsite at most. For the construction traffic ambient noise increase analysis, the weekend PM peak traffic volume were utilized for existing conditions as a conservative estimate given that traffic would be less during a weekend PM peak compared to a weekday AM peak when construction traffic would normally occur. With 425 construction workers onsite, it is assumed 1.5 constructions workers per a vehicle trip, which equates to approximately 283 vehicle trips. Because haul trucks are louder than passenger cars, a passenger car equivalence multiplier of 8 cars per truck is used (Transportation Research Board, 2000). With approximately 4 truckloads per a day, this equates to approximately 32 vehicle trips and plus the other construction worker vehicle trips, construction traffic induced would be approximately 315 vehicle trips. If all of the construction vehicle trips occurred during the existing weekend PM peak of approximately 928 vehicle trips on Forty Mile Rd (**Appendix D**), the

[1] Equation used to calculate the sumation of two sound levels: $10\log[(10^A + 10^B)/2] = C$ (Caltrans, 2013), where A and B are the respective sound measurements, n is the number of measurements, and C is the sumation of them.

ambient noise increase would be approximately 1.3 dBA. This increase is barely audible and this increase would only increase the existing L_{dn} marginally on existing roadways. Given that construction traffic would occur during the weekday, the increase in L_{dn} would be even less compared to noise created from existing sources, especially given the traffic increase would be temporary in nature. Therefore, there would be a less-than-significant impact.

TABLE 3.9-10. TYPICAL CONSTRUCTION EQUIPMENT NOISE

Equipment Description	Maximum Noise Level at 50 Feet, dBA	Predicted Maximum Noise Level, dBA
		At 800 Feet
Auger drill rig	85	61
Backhoe	80	56
Bar bender	80	56
Boring jack power unit	80	56
Compactor (ground)	80	56
Compressor (air)	80	56
Concrete batch plant	83	59
Concrete mixer truck	85	61
Concrete pump truck	82	58
Concrete saw	90	66
Crane (mobile or stationary)	85	61
Dozer	85	61
Dump truck	84	60
Excavator	85	61
Flatbed truck	84	60
Front end loader	80	56
Generator (more than 25 kVA)	82	58
Grader	85	61
Hydra break ram	90	66
Jackhammer	85	61
Mounted impact hammer	90	66
Paver	85	61
Pickup truck	55	31
Pneumatic tools	85	61
Pumps	77	53
Rock drill	85	61
Scraper	85	61
Soil mix drill rig	80	56
Tractor	84	60
Vacuum street sweeper	80	56
Vibratory concrete mixer	80	56

Notes: kVA = kilo-volt-ampere. Noise attenuation was calculated at 6 dBA per a doubling of distance given the flat topograph and rural landscape with little natural or constructed material that could act as sound barriers or absorb sound.
Source: FHWA, 2006.

On-Site Operational Noise

The Proposed Project would not generate noise on the Project Site that exceeds applicable federal, state, or county noise standards or ordinances for off-reservation receptors. More information about regulatory standards is provided in **Section 3.9.1**. On-site operational noise (including on-site traffic) would not exceed existing ambient noise levels at nearby sensitive receptors and would therefore not result in increases to ambient noise levels above applicable standards. This impact is less than significant.

Off-Site Traffic Noise

The current ambient noise levels measured at the monitoring sites (**Table 3.9-9)** are within acceptable ranges as specified in the General Plan for surrounding land uses except for Site A and B. Site A is located near the closest sensitive receptor to the Project Site with the current ambient noise level of 63.0 dBA L_{dn}, and Site B is located near commercial/agricultural development with a current ambient noise level of 70.8 dBA L_{dn} (**Table 3.9-9)** According to **Table 3.9-2**, both Site A and B have ambient noise levels that are considered within "Conditionally Acceptable" levels in the County General Plan. Within this designation, the County General Plan specifies that development projects should only be undertaken after a detailed noise analysis and noise insulation features have been incorporated into the project design. While the County General Plan does not specify in detail what a "detailed analysis" should address, the TEIR noise analysis constitutes an assessment of noise per the Procedures.

The Proposed Project would increase traffic along area roadways, and this would incrementally increase the ambient noise levels along these roadways. **Table 3.10-11** presents the ambient noise levels from the three noise monitoring sites and the anticipated increase to the ambient noise due to the increased traffic as a result of the Proposed Project in addition to the traffic anticipated for the opening year of 2021. The weekend PM peak was used because this represents the worst-case scenario for ambient noise increases with regards to the Proposed Project. As can be seen in **Table 3.10-11**, the Proposed Project would cause noise levels on Forty Mile Rd to increase between 1.1 to 1.2 dBA at maximum during the weekend PM peak time period of 4 p.m. to 8 p.m. However, this increase is not considered audible because it is below 3 dBA. Therefore, the Proposed Project would not audibly increase the L_{dn} levels for Site A and B this impact is considered less than significant and no additional noise insulation features are required due to the increased traffic volume.

TABLE 3.9-11. EXISTING CONDITIONS VS OPENING YEAR (2021) CONDITIONS PLUS PROJECT

Monitoring Site	Existing L_{eq} (dBA)	Opening Year (2021) Conditions (dBA)*	Opening Year (2021) plus Project (dBA)*	Change with Project (dBA)	Substantial Increase?
A	58.3	59.5	60.7	+ 1.2	No
B	66.8	67.9	69.0	+ 1.1	No
C	48.7	49.9	51.1	+ 1.2	No

Source: **Appendix D**, **Appendix I**.
* The Opening Year (2021) Conditions include the operation of the Proposed Gas Station Project.

Note: The increase to ambient noise due to traffic was calculated using the following formula:
(current ambient noise) + (10)log10(new traffic volume/current traffic volume) = new ambient noise (Caltrans, 2013).
Weekend PM peak volume traffic numbers were used in the calculations to represent the worst-case scenario for noise increases.

Impact 3.9.2: The Proposed Project would not expose off-reservation persons to excessive groundborne vibration or groundborne noise levels.

Construction

Construction activities for the Proposed Project would consist of using construction equipment shown in **Table 3.9-10**. Generally, excessive vibration is only an issue when construction requiring the use of equipment with high vibration levels (i.e., compactors, large dozers) occurs within 25 to 100 feet of an existing structure. Several medium-sized dozers, compactors, scrapers, and other equipment would be used during construction of the Proposed Project. As described under Impact 3.9.1, construction of the Proposed Project would occur approximately 800 west of the nearest sensitive receptor. **Table 3.9-12** provides estimated construction vibration levels at this distance. The predicted PPV levels for the construction of the Proposed Project are well below the significance thresholds of 0.5 PPV for non-residential structures and 0.1 PPV for off-reservation residences. Consequently, this is a less-than-significant impact.

TABLE 3.9-12. PREDICTED PPV AT 200 FEET FROM CONSTRUCTION

Equipment	Reference PPV (inches/second) at 25 feet	Predicted PPV (inches/second) at 800 feet
Large bulldozer	0.089	0.000492
Scraper	0.089	0.000492
Loaded truck	0.076	0.000420
Jackhammer	0.035	0.000193
Small bulldozer	0.003	0.000017

Notes: PPV was predicted using the equation $PPV_{predicted} = PPV_{ref} * (D_{ref} / D_{source})^{1.5}$.
Source: FTA, 2018.

Operation

Activities on the Project Site related to the operation of the resort and ancillary facilities in addition to the Proposed Project are not substantial sources of groundborne vibration. Off-reservation loaded trucks traveling to and from the Project Site during operation would be the only source of off-reservation vibrations from the operation of the Proposed Project. The number of loaded trucks on the roadways surrounding the Project Site would not increase substantially and therefore would not create vibrational impacts at nearby sensitive receptors. Bus usage on SR-16 generated by the Proposed Project may somewhat increase. This is a less-than-significant impact.

Impact 3.9.3: The Proposed Project would not result in a substantial permanent increase in ambient noise levels in the off-reservation vicinity of the project.

Traffic Noise

The level of off-reservation traffic noise depends on three factors: (1) the volume of the off-reservation traffic, (2) the speed of the off-reservation traffic, and (3) the number of trucks in the flow of the off-

reservation traffic. It is not anticipated that vehicle speed in the vicinity of the Proposed Project would change. The Proposed Project is not expected to notably increase off-reservation truck traffic, and in fact could actually decrease truck traffic because the expanded back-of-house area would permit more on-site storage, reducing the frequency of truck trips to the Resort. Therefore, it is conservative and fair to assume the Proposed Project would cause no change in the existing traffic mix for the Resort. However, with implementation of the Proposed Project, the total off-reservation traffic volumes would increase.

As shown in **Table 3.9-11**, the maximum increase to ambient noise levels along Forty Mile Rd as a result of Proposed Project traffic is 1.2 dBA. This increase is below the most stringent significance threshold increase of 1.5 dB shown in **Table 3.9-1**. Therefore, the additional traffic attributable to the Proposed Project would not cause a substantial permanent increase in the off-reservation noise level. Additional traffic generated by the Proposed Project would result in a less-than-significant impact on the existing ambient off-reservation noise environment.

On-Site Operational Noise

Noise generated by the operation of the Proposed Project with the potential to affect off-reservation sensitive noise receptors would include noise from the operation of mechanical equipment and vehicles operating onsite. Noise from existing mechanical equipment and onsite vehicles for the Resort, including the HVAC systems and loading/unloading activities, is not audible at off-reservation locations due to the distance between the on-site stationary noise sources and the closest sensitive noise receptor (approximately 700 feet). On-site stationary sources associated with the Proposed Project would be similar to those of the Resort. The main operational noise sources attributable to the Proposed Project would be increased vehicle movements from the on-site surface roads and surface parking areas. However, the increased operation vehicles onsite would only become audible if it doubled the current onsite operation vehicles associated with the Resort. As discussed in **Section 2.4.2**, the PM peak hour trips requiring parking would only increase by 96. Compared to existing peak Resort capacity (approximately 3,753 parking spots used), the Proposed Project would result in an approximately 2.6 percent increase in vehicles onsite. The increase in noise from the additional vehicles on the Project Site would not be audible compared to existing conditions. Because of the low noise levels associated with the uses described before, the Resort and Proposed Project combined would have a less-than-significant impact

Indoor Live Music Venue

The proposed indoor live music venue would be constructed using industry-standard noise reduction design provisions. While it is likely that amplified speech and music would be a common component of the venue with regular events, the proposed venue would be completely enclosed, and sound generated within the venue would be contained by the building. As a result, sound generated during events within the venue is not predicted to be audible at the exterior of the Project Site, and would similarly be inaudible at the nearest sensitive receptors. Therefore, this impact is less than significant.

Impact 3.9.4: The Proposed Project could potentially result in a substantial temporary or periodic increase in ambient noise levels in the off-reservation vicinity of the project.

As discussed under Impact 3.9.1, construction would induce increases in the ambient noise levels on a temporary basis, and the maximum noise level at the nearest sensitive receptor during construction of the Proposed Project would be approximately 66.6 dBA L_{max} and approximately 63.7 dBA L_{eq}, which is an approximately increase of 5.4 dBA from the existing 58.3 dBA L_{eq} at the nearest sensitive receptor at Site A. According to **Table 3.9.1**, this is above the significance increase threshold of 3.0 dBA or more given the current ambient noise level. This is a potentially significant impact. However, as discussed under Impact 3.9.1, **Mitigation Measure 3.9-1** would reduce this potential impact to less than significant through implementing measures to reduce construction noise, such as that engine-powered construction equipment would be fitted with adequate mufflers. Therefore, there would be a less-than-significant impact with mitigation.

3.9.4 MITIGATION MEASURES

The following mitigation measures are recommended to mitigate specific impacts identified in this TEIR:

3.9-1 The following shall be done during construction of the Proposed Project to reduce the induced noise to acceptable levels:

1. Construction activities within a half-mile of existing noise sensitive uses shall be limited to daytime hours (7 a.m. and 7 p.m.).
2. Engine-powered construction equipment shall be fitted with adequate mufflers and enclosures as supplied by the manufacturer, maintained in good condition.
3. During the use of engine-powered construction equipment located within a 1,000 feet of sensitive receptors (the home across Forty Mile Rd from the Project Site), the construction site should be shielded from those sensitive receptors by temporary barriers blocking line of sight between the source and receiver.TV

3.10 PUBLIC SERVICES AND UTILITIES AND SERVICE SYSTEMS

This section addresses the off-reservation environment associated with public services and utilities and service systems, discusses potential impacts of the Proposed Project on off-reservation public services and utilities and service systems, and recommends mitigation measures to reduce any potentially significant off-reservation impacts.

3.10.1 REGULATORY SETTING

State and Local

The Project Site is located on trust land and is not subject to state or local controls concerning off-reservation governmental facilities and utilities and service systems. However, such controls would apply to any new or physically altered off-reservation governmental facilities that are required as a result of implementation of the Proposed Project to maintain acceptable standards for items identified in the Environmental Impact Analysis Checklist attached to the Procedures as Appendix B (Checklist) (**Appendix A**).

California Integrated Waste Management Act

The management of off-reservation non-hazardous solid waste in California is mandated by state law and guided by policies at the state and local levels. In 1989, the State of California enacted Assembly Bill (AB) 939, the California Integrated Waste Management Act. As a result of AB 939, all off-reservation local jurisdictions, cities, and counties were required to divert 50 percent of their total waste stream from landfill disposal by the year 2000. Waste generated by the Resort does not affect Yuba County (County) diversion goals required by AB 939, as trust land is not included in local waste diversion statistics; instead, the Environmental Protection Agency's Tribal Waste Management Program encourages environmentally sound waste management practices that promote resource conservation through recycling, recovery, reduction, clean up, and elimination of waste (EPA, 2021).

Yuba County 2030 General Plan

The *Yuba County 2030 General Plan* (General Plan), adopted in 2011, is the guiding document for development in the unincorporated areas of the County, including the off-reservation properties in the vicinity of the Proposed Project (Yuba County, 2011). The General Plan does not apply to trust land or to the Proposed Project itself. Goals, policies, and actions in the General Plan that are relevant to the off-reservation governmental facilities and the off-reservation utilities and services systems described in the Checklist are as follow.

Community Development Element

Goal CD12 Ensure high-quality public services, infrastructure, and facilities with adequate capacity to meet the needs of Yuba County's existing and future residents, businesses, industries, and employers

Policy CD12.1 New developments will be required to demonstrate the availability of adequate water supply and infrastructure, including during multiple dry years, prior to approval.

Policy CD12.3 The County will implement stormwater master plans designed to provide collection, detention, and conveyance consistent with local standards for developed areas within

the Valley Growth Boundary. In general, new developments will be required to demonstrate no net increase in stormwater runoff prior to approval.

Policy CD12.5 New developments shall demonstrate the availability of adequate fire flow pressure, storage, system gridding, hydrant spacing, and sprinkler systems prior to approval.

Policy CD12.8 New developments shall contribute fees, construct and dedicate facilities, and/or use other mechanisms acceptable to local service providers to provide for law enforcement and fire protection facilities and services needed to serve new growth.

Policy CD12.10 New developments shall provide impact fees, land dedication, school construction, or other measures acceptable to local school districts to ensure adequate educational facilities and site new school sites that are free from toxic contaminant issues and are otherwise consistent with school district siting criteria.

Policy CD12.14 Solid waste service, including recycling, is required for urban land uses developed within the Valley Growth Boundary

Goal CD14 Provide coordinated public service and infrastructure planning

Policy CD14.13 New development projects should provide compatible utility services in common trenching to minimize the land required and ongoing costs for underground services.

Policy CD14.13 New development projects should provide compatible utility services in common trenching to minimize the land required and ongoing costs for underground services.

Goal CD15 Cost-effective, efficient, and environmentally responsible public infrastructure, facilities, and services.

Policy CD15.2 New developments shall provide for their fair-share cost of providing infrastructure, facilities, and services to serve such development.

Policy CD15.3 New developments will be required to designate lands in appropriate locations, sizes, and free of constraints to accommodate public facilities and infrastructure needed to serve such development and/or pay a fair-share fee for land acquisition.

Policy CD15.5 New developments should incorporate water conservation techniques to reduce water demand, including the use of reclaimed water for landscaping and irrigation.

Policy CD15.6 New developments (public and private) should use Low Impact Development, Natural Drainage Systems, and other best management practices that reduce the rate of runoff, filter out pollutants, and facilitate groundwater infiltration.

3.10.2 ENVIRONMENTAL SETTING

Fire Protection

Yuba County Office of Emergency Services is the coordinator for all necessary planning for emergency preparedness, response, recovery, and mitigation in the County. The Yuba County Emergency

Operations Plan is a functional guide and strategic planning resource for both the County and the incorporated cities therein, and is meant to reflect the most recent advances in emergency operations at the local, state, and federal levels (Yuba County, 2015). The Project Site is not located within an area designated by Cal Fire as a Fire Hazard Severity Zone (Cal Fire, 2020).

Fire protection agencies associated with the Yuba County Office of Emergency Services include the Linda Fire Protection Authority, Marysville Fire Department, Wheatland Fire Authority, Olivehurst Fire Department, Dobbins/Oregon House Fire District, Loma Rica Browns Valley Fire Department, Foothill Fire Protection District, Smartsville Fire Protection District, and California Department of Forestry and Fire Protection (Cal Fire) (Nevada-Yuba-Placer Unit). Cal Fire provides wildland fire protection and, under contract with the Bureau of Indian Affairs, responds to wildfires on Indian reservations in California (including the Resort and surrounding trust land). Additional volunteer-based fire stations exist throughout the County.

Four fire departments are located within approximately five miles of the Project Site. These fire departments include the Linda Fire Protection District Station 3, Olivehurst Fire Department, Plumas Brophy Fire Department, and Wheatland Fire Department. The Resort contracts with the Olivehurst Fire Department for fire and emergency response services. The agreement includes a mechanism for the reimbursement of any on or off-reservation fire and emergency medical services provided by any of the four nearby fire departments (Olivehurst Public Utility District, 2019).

Although the County of Yuba does not have a designated county fire department or consolidated fire services, the County works closely with the many professional fire service organizations within its boundaries to coordinate response to emergency incidents. These organizations vary from the volunteer fire service districts in the Sierra Nevada Region of the County, Cal Fire seasonal and contracted services, the Plumas and Tahoe National Fire Service, Beale Air Force Base Fire Department, and the fire protection districts in the Northern Sacramento Valley Region of the County.

Emergency Medical Services

First Response

When an emergency medical incident occurs at the Resort, tribal security personnel trained in cardiopulmonary resuscitation (CPR) and first aid are typically the first to provide assistance. The Resort staffs multiple emergency medical technicians (EMTs). At least one certified EMT is on duty at all times. As discussed below, the Resort contracts with Olivehurst Fire Department, the Yuba County Sheriff's Department, and the California Highway Patrol (CHP) for emergency medical services.

Emergency Transport

The Sierra-Sacramento Valley Emergency Medical Services Agency (SSV EMS Agency) is a joint powers agency that manages ground ambulance services for several counties, including Yuba County. In accordance with an existing agreement with the County, SSV EMS Agency's Bi-County Ambulance is the sole provider of ground ambulance services to the County (SSV EMS Agency, 2021). SSV EMS Agency is privately owned and operates out of its own facility. The Resort contracts with Bi-County Ambulance for emergency ground ambulance services (Bi-County Ambulance, 2018).

Emergency air transportation is provided to the Project Site by California Shock Trauma Air Rescue (CALSTAR) and Redwood Empire Air Care Helicopter (REACH). CALSTAR is a non-profit organization based at the McClellan Airfield, approximately 40 miles south of the Project Site, while REACH Air

Medical Services is a private organization that has four helicopter bases located in Lakeport (west of the Project Site), Santa Rosa (southwest of the Project Site), Marysville (north of the Project Site), and Sacramento (south of the Project Site) (REACH, 2021). Neither CALSTAR nor REACH uses governmental facilities to provide transport service at the Project Site.

Local Medical Facilities

Adventist Health and Rideout Memorial Hospital, operated by a non-profit organization, is located approximately 8 miles northeast of the Project Site. Adventist Health and Rideout Memorial Hospital is an acute care facility that can accommodate both medical and trauma emergencies.

Police and Law Enforcement

Under Public Law 280, the State of California and local law enforcement agencies have criminal law enforcement responsibilities on tribal lands (including at the Resort). Depending upon the type of incident, federal law enforcement agencies may also provide law enforcement to the Resort.

Resort Security

The Tribe currently maintains a staff of 67 security personnel who act as first responders to law enforcement issues at the Resort to reduce impacts on off-reservation law enforcement agencies. All of the Tribe's security personnel are trained in CPR, first aid, and stop-the-bleed. Security personnel carry two-way radios for a quick response time to on-site incidents and emergency-related calls. The Resort's security measures include closed-circuit television surveillance of the entire casino, alarm monitoring and well-lit facilities.

Yuba County Sheriff's Department

The Yuba County Sheriff's Department (Sheriff's Department) station closest to the Resort is located in the City of Marysville, approximately eight miles northwest of the Project Site. The Resort contracts with the Sheriff's Department for emergency response services. The Sheriff's Department may be called to the Resort when a suspect has been detained by tribal security, or if additional law enforcement support and assistance is deemed necessary.

California Highway Patrol

The CHP is the chief off-reservation law enforcement agency for traffic-related issues on SR-65, SR-70, and Forty Mile Rd, which provide regional access to the Project Site. The closest CHP substation to the Project Site is located at 1619 Poole Blvd in Yuba City, approximately 12 miles northwest of the Project Site. The Resort contracts with the CHP for emergency and special event traffic control on Forty Mile Rd.

Criminal Justice System

The County provides a criminal justice system to enforce the state laws off reservation that control crime, maintain social order, and sanction those that violate the laws with penalties. In addition to the Sheriff's Department (discussed above), the County criminal justice system includes the County Jail, District Attorney, Public Defender, Probation Department, and other off-reservation court services. Arrests that are made at the Resort are processed through the County's criminal justice system.

Schools

The nearest off-reservation public schools to the Project Site are in Plumas Lake Elementary School District, approximately 1.6 miles south of the Project Site. Plumas Lake Elementary School District consists of Cobblestone Elementary School, Rio del Oro Elementary School, and Riverside Meadows Intermediate School. The nearest high school to the Project Site is Wheatland Union High School, which comprises its own school district and is located approximately eight miles southeast of the Project Site.

Water Supply and Treatment

There is no off-reservation public water system that supplies or treats water for the Resort or ancillary support and commercial facilities. The Resort obtains its water from a single production well owned and operated by the Tribe. The water from this well is stored in a 450,000 gallon storage tank owned and operated by the Tribe and located on trust land. The Tribe's existing and proposed water supply and treatment facilities are addressed in detail in **Section 2.4.7** and **Section 3.7**, **Hydrology and Water Quality**, and an analysis of off-reservation groundwater impacts attributable to the Proposed Project is provided in **Section 3.7**, **Hydrology and Water Quality**.

Wastewater Treatment

There is no public wastewater system that serves the Resort. Wastewater generated on the trust land is treated in an on-site wastewater treatment plant (WWTP) owned and operated by the Tribe. The WWTP provides tertiary-treated effluent in compliance with California Code of Regulations (CCR) Title 22 standards for reuse by the Tribe and for the irrigation of feed crop. The Tribe's existing wastewater treatment facilities and related water balance and use issues are addressed in **Section 2.4.8** and **Section 3.7**, **Hydrology and Water Quality**.

The Tribe has implemented an aggressive water recycling and conservation program, which incorporates recycled water from the on-site WWTP. Recycled water is used to irrigate on-site landscaping and is also used for toilet flushing at the Resort. Excess effluent is stored off-reservation in a 30 million gallon storage pond and is used to irrigate feed crop. Recycled water that is used to irrigate the adjacent farmland is governed by waste discharge requirements issued by the Central Valley Regional Water Quality Control Board (CVRWQCB).

Stormwater Facilities

There are no public stormwater facilities that serve the Resort. Runoff from the existing drainage system at the Resort and ancillary support surrounding the Resort is conveyed through a series of settling basins on the reservation property. Stormwater then passes to a final inundation basin that allows for the mitigation of floodwaters in the event of a 100-year flood event. Existing stormwater facilities are further addressed in **Section 3.7**, **Hydrology and Water Quality**. The Central Valley Flood Protection Board holds inundation easements on the northwest portion of the reservation and the western portions of the adjacent land leased by the Tribe for additional parking to serve the Resort. The inundation easement generally allows for the right to flood the property without recourse. The stormwater retention system on the parcels used for the additional parking area are designed to contain the flood waters associated with a 100-year flood event and ensure that the flood water carrying capacity remains consistent with those easements.

Solid Waste Management

Yuba County Solid Waste

The management of off-reservation non-hazardous solid waste in Yuba County is mandated by state law, including AB 939, and is guided by policies at the state and local levels. In accordance with AB 939, the County is required to divert 50 percent of its total waste stream from landfill disposal.

The Resort's current waste stream includes an average of 105 tons of municipal solid waste per month. Recyclable materials are diverted from the landfill via current on-site collection programs.

Recology Yuba-Sutter transports solid waste from the Resort to the Recology Ostrom Road Landfill (RORL) located in Wheatland, approximately eight miles east of the Project Site. The RORL covers 261 acres and is currently permitted to receive approximately 3,000 tons of solid waste per day. The RORL is expected to reach its capacity of 43,467,231 cubic yards in the year 2066 (CalRecycle, 2021). YCCL is classified as a Class II and Class III facility, which allows it to accept municipal wastes, recycled materials, liquid wastes, wood, biosolids, and green wastes for disposal (CCR Title 27, Division 2). Biosolids (classified as Class B) generated at the on-site WWTP are disposed of at the RORL in accordance with the Recology Sampling Requirements and Acceptance Criteria (Recology, 2017).

3.10.3 IMPACT ANALYSIS

Significance Criteria

The following criteria are established by the Environmental Impact Analysis Checklist attached to the Procedures as Appendix B (Checklist) (**Appendix A**) and are used in this section to evaluate the potential off-reservation environmental impacts of the Proposed Project on off-reservation public services and utilities and service systems. In addition, although not required by the Checklist, this analysis includes off-reservation emergency medical services facilities and off-reservation law enforcement facilities other than police protection facilities. An impact is considered significant if it would:

- Result in substantial adverse physical off-reservation impacts associated with the provision of new or physically altered off-reservation governmental facilities, the construction of which could cause significant off-reservation environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, schools, or other off-reservation public facilities;
- Exceed off-reservation wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB);
- 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;
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant off-reservation environmental effects; or
- Result in a determination by an off-reservation wastewater treatment provider (if applicable) that serves or may serve the Proposed Project that it has inadequate capacity to serve the Proposed Project's projected demand in addition to the provider's existing commitments.

Methodology

For the purposes of this Draft TEIR, the term "other public facilities" as used in Section XIII of the Checklist is conservatively assumed to include off-reservation emergency medical services, health services, and solid waste. The impact analysis in this section compares the existing conditions described

above to the foreseeable increase in demands on off-reservation public services attributable to the Proposed Project.

Impact 3.10.1: The Proposed Project would not result in the need for the construction of new or the alteration of existing off-reservation governmental fire protection facilities.

Construction of the Proposed Project would introduce additional potential sources of fire to the Project Site that could result in the need for firefighting services. During construction, equipment and vehicles may come in contact with vegetation, which could spark and ignite, leading to fires requiring responses from qualified fire protection services. However, the Project Site is currently developed or disturbed and surrounded by maintained agricultural land. Therefore, the Proposed Project would have no immediate risk of sparks igniting dry grass or vegetation and construction of the Proposed Project is unlikely to generate calls to off-reservation fire protection services. By expanding the square footage of the Resort, operation of the Proposed Project could increase the risk of fire, the frequency of fire protection calls for service, and the complexity of fire protection responses at the Resort. No such increase would be substantial enough to require additional off-reservation emergency dispatch services to the extent that the construction of new or the alteration of the existing fire protection facilities would be required. As described above, the Resort contracts with the Olivehurst Fire Department for emergency response services for the entire Project Site. Additionally, the Proposed Project would adhere to applicable tribal codes and Section 6.4.2 of the Procedures, which are comparable to the California Building and Public Safety Codes applicable to the County. Applicable fire protection features would be incorporated into the design of the Proposed Project. Because there would be no need to construct new or alter any existing off-reservation governmental fire protection facilities as a result of the Proposed Project, there would be no impact associated with off-reservation construction or alteration of such facilities.

Impact 3.10.2: The Proposed Project would not result in the need for the construction of new or the alteration of existing off-reservation governmental emergency medical facilities.

As described above, the Resort contracts with Olivehurst Fire Department, the Yuba County Sheriff's Department, Bi-County Ambulance and the CHP for emergency medical services. The incremental increase in patrons resulting from implementation of the Proposed Project could theoretically result in a small increase in the potential for off-reservation emergency medical responses to the Project Site. No such increase would be substantial enough to require additional off-reservation emergency dispatch services to the extent that the construction of new or the alteration of the existing emergency dispatch facilities would be required. Because there would be no need to construct new or alter any existing off-reservation governmental emergency dispatch facilities as a result of the Proposed Project, there would be no impact associated with off-reservation construction or alteration of such facilities.

The Proposed Project could also affect off-reservation emergency medical service providers; however, the primary first responders to all emergency medical incidents at the Resort would be from the on-site EMTs and security personnel. A fast response from the on-site EMTs and security personnel would reduce the demand on off-reservation emergency medical service providers by providing paramedic-level services within minutes of any incident at the Project Site. With the provision of emergency

services from the providers contracted by the Tribe for the Resort, operation of the Proposed Project would not require an increase in off-reservation emergency medical services to the extent that the construction of any new or the alteration of any existing governmental emergency medical facilities would be required. Ground ambulance, air ambulance, and hospital services are all provided to the Resort by non-governmental organizations, and an increase in the need for such services attributable to the Proposed Project would not affect governmental facilities. Because there would be no need to construct new or alter existing off-reservation governmental emergency medical services facilities as a result of the Proposed Project, there would be no impact associated with off-reservation construction or alteration of such facilities.

Impact 3.10.3: The Proposed Project would not result in the need for the construction of new or the alteration of existing off-reservation governmental law enforcement facilities.

The incremental increase in patrons resulting from implementation of the Proposed Project could result in a proportionate increase in crime, possibly including incidents requiring response by off-reservation law enforcement agencies. As described in **Section 3.11**, **Transportation/Traffic**, the Proposed Project would also generate additional traffic on roadways in the vicinity of the Project Site, which could result in increased traffic-related incidents. As described above, law enforcement services to the Project Site are provided by the Yuba County Sheriff's Department and the CHP. The response times and capabilities of the Sheriff's Department and CHP could be impacted by those increases. While the Proposed Project would be expected to marginally increase demand for police protection services compared to existing conditions, the Proposed Project would not create the need for new or expanded police protection facilities because residential growth is not anticipated as a result of the Proposed Project. Because the Proposed Project is not anticipated to significantly increase patronage at the Resort, the Proposed Project would not result in the need for further construction or alteration of off-reservation governmental police protection and or law enforcement facilities. Since there would be no need to construct new or alter existing off-reservation governmental police protection and/or law enforcement facilities as a result of the Proposed Project, there would be no impact associated with off-reservation construction or alteration of such facilities.

Impact 3.10.4: The Proposed Project would not result in the need for the construction of new or the alteration of existing governmental criminal justice facilities.

As the Proposed Project is not anticipated to significantly increase patronage at the Resort and would not increase long-term stays at the Project Site, it is not anticipated that the Proposed Project would result in the need for the construction of new or the alteration of existing governmental criminal justice facilities. Because there would be no need to construct new or alter existing off-reservation governmental criminal justice facilities as a result of the Proposed Project, there would be no impact associated with off-reservation construction or alteration of such facilities.

Impact 3.10.5: The Proposed Project would not result in the need for the construction of new or the alteration of existing off-reservation public school facilities.

As noted in the discussion of population and housing in **Section 3.3**, **Land Use and Population and Housing,** based on the current population and employment statistics for Yuba County, no additional

people would be required or anticipated to move to Yuba County to fill the jobs generated by the Proposed Project; therefore, the Proposed Project would not result in an increase in demands for off-reservation public school services to the extent that the construction of new or the alteration of the existing off-reservation public school facilities would be required. Because there would be no need to construct new or alter existing off-reservation public school facilities as a result of the Proposed Project, there would be no impact associated with off-reservation construction or alteration of such facilities.

Impact 3.10.6: The Proposed Project would not require the construction of any new water or wastewater treatment facilities or the expansion of existing facilities, the construction of which could cause significant off-reservation environmental effects.

No off-reservation water or wastewater treatment facilities, or any expansion of off-reservation water or wastewater treatment facilities, would be required for or be a part of the Proposed Project, and therefore no off-reservation environmental impacts would occur with respect to off-reservation water and wastewater treatment facilities.

Currently, the biosolids produced at the on-site WWTP meet the Recology Sampling Requirements and Acceptance Criteria and are off-hauled to the RORL for disposal. The biosolids are tested annually for the required constituents, and disposal permits are issued by Yuba County. The Proposed Project would increase the amount of biosolids for off-site disposal; however, the increase in biosolids would be within the existing capacity of the landfill. Therefore, the impact on the RORL would be less than significant.

The Tribe operates the WWTP on the trust land adjacent to the Resort. The WWTP will not be modified to accommodate the additional water to be treated and the additional wastewater to be treated and disposed of as a result of the Proposed Project, as described in **Section 2.4.7** and **Section 2.4.8**. The analysis of the potential for significant off-reservation environmental effects as a result of such modifications is discussed throughout this TEIR. Based on that analysis, there would be no impact.

Impact 3.10.7: The Proposed Project would not exceed off-reservation wastewater treatment requirements of the CVRWQCB.

After construction of the Proposed Project, the Resort would continue to utilize the on-reservation WWTP. Off-reservation requirements of the CVRWQCB and potential off-reservation environmental impacts of the WWTP are discussed in **Section 3.7**, **Hydrology and Water Quality**. The WWTP, which will not be modified by the Proposed Project, would continue to be required to comply with all applicable requirements of the CVRWQCB. Therefore there would be no impact.

Impact 3.10.8: The Proposed Project would not require the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant off-reservation environmental impacts.

The addition of the Proposed Project at the Resort would minimally affect existing drainage patterns at the Resort because most construction for the Proposed Project would occur on areas of existing impervious surfaces, and would not increase surface water flows above the drainage capacity of existing drainage facilities and culverts. The existing off-reservation culverts and drainage system along Forty

Mile Rd are sized to meet the Proposed Project's anticipated stormwater flows. Impact 3.7.4 in **Section 3.7**, **Hydrology and Water Quality**, addresses this issue in greater detail.

Because stormwater generated at the Resort after implementation of the Proposed Project would be handled at nearly the same rate as under existing conditions, no new off-reservation stormwater facilities and no alteration of existing stormwater facilities would be required for the Proposed Project. Therefore, there would be no impact associated with construction or alteration of stormwater facilities for the Proposed Project.

Impact 3.10.9: The Proposed Project would not affect performance objectives for the Recology Ostrom Road Landfill and therefore would not result in the need for the construction of new or the alteration of existing off-reservation governmental landfill facilities.

Construction

The construction of the Proposed Project would result in a temporary increase in solid waste generation. Potential solid waste streams from construction are expected to include paper, wood, glass, and plastics from packing materials, waste lumber, insulation, and empty non-hazardous chemical containers; excess concrete from construction practices; and excess metal, including steel from welding/cutting operations and aluminum from packing materials and electrical wiring. Construction waste would be disposed of at the Recology Ostrom Road Landfill, which accepts construction and demolition materials. This is anticipated to result in a less-than-significant impact. Even though no significant impact requiring construction of a new or alteration of any existing landfill would occur, the Tribe will commit to ensuring that construction waste from the Proposed Project is recycled to the fullest extent practicable by diverting green waste and recyclable building materials away from the solid waste stream. This commitment provides additional assurance that the impact would be less than significant.

Operation

It is anticipated that the Proposed Project would continue to utilize the on-site recycling and solid waste management practices currently utilized by the Resort, with continued solid waste collection services provided to the Resort by Recology Yuba-Sutter, which adheres to state and County solid waste guidelines. Waste collected during operation of the Proposed Project is anticipated to be disposed of at the RORL, which has an estimated remaining net life capacity of 45 years, until 2066 (CalRecycle, 2021).

The amount of solid waste generated by the Proposed Project was estimated based on generation rates provided by the California Department of Resources Recycling and Recovery (CalRecycle). Accordingly, the most conservative solid waste generation rates were used as the basis to calculate the generation rates resulting from the Proposed Project. As shown in **Table 3.10-1**, the total solid waste generated by the Proposed Project is estimated to be 5,800 pounds per day (approximately 2.9 tons per day).

The RORL is permitted to accept approximately 3,000 tons of solid waste per day (CalRecycle, 2021). Without accounting for recycling, solid waste from the Proposed Project would represent approximately 0.1 percent of the RORL's remaining available permitted daily intake capacity. The projected solid waste generation by the Proposed Project is a small contribution to the waste stream delivered to, and would not significantly decrease the life expectancy of the RORL. The use of 0.1 percent of the RORL's remaining daily intake capacity to accommodate additional solid waste generated by the Proposed

Project would not result in an increase in demands for off-reservation landfill services to the extent that construction of a new or alteration of any existing off-reservation governmental landfill facilities would be required. Because there would be no need to construct new or alter existing off-reservation governmental landfill facilities as a result of the Proposed Project, there would be no impact associated with off-reservation construction or alteration of such facilities.

TABLE 3.10-1. SOLID WASTE GENERATION

Land Use	Generation Rate	Units of Measure	Proposed Attendees/Square Footages	Estimated Daily Generated Waste (lbs/day)
Live Music Venue	1.5	lbs/attendee/day	3,000	4,500
BOH (Warehouse & Office Space)	0.065	lbs/sq ft/day	20,000	1,300
			Total	**5,800**
			Total (tons/day)	**2.9**
Source: CalRecycle, 2006; 2019.				

Impact 3.10.10: The Proposed Project would not require or result in the construction of new electrical distribution facilities or expansion of existing facilities, the construction of which could cause significant off-reservation environmental effects.

Under baseline conditions, the Proposed Project would increase peak electrical energy demand for the Resort and auxiliary support and commercial facilities from 3 megawatts (MW) to 4.4 MW (a 1.4-MW increase). All of the energy demands resulting from the Proposed Project would be met through a service agreement with Pacific Gas and Electric Company (PG&E) through existing power lines along Forty Mile Rd. Existing electrical infrastructure is anticipated to be sufficient to serve the Proposed Project. No upgrades to PG&E's existing transmission and distribution network to which the Resort are connected would be required as a result of the Proposed Project. As PG&E has adequate power supply regionally to accommodate new developments there would be less-than-significant effects to existing off-reservation customers and to existing PG&E facilities. Additionally, the Proposed Project would be designed to meet or exceed the standards of Title 24 of the California Code of Regulations, which sets minimum efficiency requirements for building construction materials and energy-consuming equipment in California. Therefore, there would be no impact associated with off-reservation construction or alteration of such facilities.

3.11 TRANSPORTATION/TRAFFIC

This section addresses the off-reservation environment associated with transportation and traffic, discusses potential impacts of the Proposed Project on off-reservation transportation and traffic, and recommends mitigation measures to reduce identified potentially significant off-reservation impacts. A traffic memorandum was prepared (traffic memo) for the Proposed Project and is included as **Appendix D** of this Tribal Environmental Impact Report (TEIR). The discussion in **Section 3.11.2** includes a summary and analysis of the results of the traffic memo.

3.11.1 REGULATORY SETTING

Regulation of the off-reservation roadway network in the vicinity of the Proposed Project generally falls under the jurisdiction of the California Department of Transportation (Caltrans) and Yuba County. Laws and regulations related to off-reservation transportation are described below.

State and Local

The Project Site is located on trust land and is not subject to state or local controls concerning transportation and traffic. However, such controls apply to off-reservation land in the vicinity of the Project Site.

California Department of Transportation

Caltrans manages interregional transportation, including the management and construction of the California highway system. In addition, Caltrans is responsible for the permitting and regulation of state roadways. The area surrounding the Project Site is located in Caltrans District 3 and includes two roadways that fall under Caltrans' jurisdiction: State Route (SR)-65 and SR-70. Caltrans requires permits for off-reservation transportation of oversized loads, transportation of certain materials, and for construction-related traffic disturbances on such roadways.

Yuba County Public Works Department

The County Public Works Department has the discretionary authority to issue special permits for the movement of vehicles or loads exceeding statutory limitations on the size, weight, and loading of vehicles contained in Division 15, Chapter 5, Article 6 of the California Vehicle Code. Additionally, County Public Works Department is responsible for the administration of the Transportation Permit program through the uniform issuance of Transportation Permits. Other permits issued from the County Public Works Department include encroachment permits, widening permits, and stripping permits.

Yuba County 2030 General Plan

The Yuba County 2030 General Plan (General Plan), adopted in 2011, is the comprehensive guiding document for development and conservation in the unincorporated areas of the County, which include the off-reservation properties in the vicinity of the Proposed Project. The General Plan does not apply to the trust land on which the Proposed Project would be located, or to the Proposed Project itself. Policies in the General Plan that are relevant to the off-reservation transportation and traffic conditions in the vicinity of the Proposed Project include the following:

Public Health and Safety Element

Goal HS5 Provide greenhouse-gas Efficient Development patterns and successfully adapt to future changes in Yuba County's Climate.

Policy HS5.3 Because transportation is the largest sector contributing to GHG emissions both locally and at the statewide level, the County will prioritize land use/transportation projects that manage travel demand by increasing housing/employment density, placing homes in closer proximity with destinations, increasing accessibility to transit, or other decreasing vehicle miles traveled (per household, per capita, and/or per employee).

Goal HS10 Ensure that noise does not substantially reduce the local quality of life.

Policy HS10.9 New developments shall disperse vehicular traffic onto a network of fully connected smaller roadways and minimize funneling of local traffic onto large-volume, high-speed roadways near existing or planned noise-sensitive land uses to the maximum extent feasible.

Community Development Element

Goal CD14 Provide coordinated public service and infrastructure planning.

Policy CD14.4 The County will coordinate with special districts, cities, Sacramento Local Agency Formation Commission, the Sacramento Area of Council of Governments, Caltrans, joint powers authorities, and other relevant agencies to provide efficient local and regional infrastructure, public facilities, and public services.

Goal CD16 Maintain a roadway system that provides adequate level of service, as funding allows, and that is consistent with the County's planning, environmental, and economic policies.

Policy CD16.1 The County will maintain roadway levels of service that recognize differences between urban and rural environments and consideration of other community character, economic, and environmental policies of the County.

Policy CD16.2 On County roads in the Valley Growth Boundary, Level of Service "D" shall be maintained during the PM Peak Hour.

Policy CD16.3 On County roads in rural areas, Level of Service "D" shall be maintained, as feasible, during the PM Peak Hour.

Policy CD16.4 On State highways, the level of service goals included in the adopted Yuba-Sutter Congestion Management Plan shall be maintained, as feasible.

Policy CD16.5 Where a new development would exceed the County's Level of Service policies, applicants shall first consider feasible revisions to the proposed development that would increase connectivity, enhance bicycle/pedestrian/transit access, provide additional travel demand management measures, and/or provide other revisions that would help to meet Level of Service (LOS) standards by reducing vehicle miles traveled on roads exceeding the target LOS, prior to consideration of adding capacity to roadways and intersections.

Policy CD16.6 New developments shall analyze and provide fair-share funding of roadway improvements necessary to provide an appropriate LOS and ongoing operation and maintenance of roadways. New developments abutting General Plan Roads will generally be required to construct and dedicate improved roads.

Policy CD16.7 New developments will be required to reserve County and Caltrans rights-or-way necessary to service the 2030 General Plan at buildout according to County Level of Service policies.

Policy CD16.8 The county will maintain and update its traffic fee program designed to fund roadway improvements consistent with General Plan Policies throughout the 2030 planning horizon.

Policy CD16.9 The county will assess and prioritize its investments in road improvements through periodic updates to capital improvement planning, guided by the policies of the Community Development Element.

Policy CD16.12 Proposed specific plans shall identify and describe financing plans for major transportation improvements required to serve them, including railroad overcrossings, highway overcrossings, and other facilities.

Goal CD17 Reduce costs of transportation infrastructure, increase freedom of mode choice, maintain air quality, and improve the local quality of life by managing travel demand.

Policy CD17.1 New developments shall be designed to facilitate safe and convenient travel by pedestrians, bicyclists, transit users, and drivers.

Policy CD17.2 The County will coordinate approval of projects and plans with local transit providers to ensure that transit service is provided for work, shopping, school, and other types of trips within the Valley Growth Boundary.

Policy CD17.5 The County will review and condition large employment generating projects, defined as new projects that could accommodate more than 50 full-time equivalent employees, according to the provisions of a County Travel Demand Management Ordinance.

Policy CD17.6 New developments and specific plans shall analyze and mitigate impacts related to increased ravel demand, as feasible and consistent with County General Plan policy.

Goal CD18 Improved transportation access throughout the County and surrounding region

Policy CD18.6 The County will evaluate and consider the effects of future land use changes on regional circulation facilities as part of land use planning decisions.

Policy CD18.7 New developments shall analyze impacts to Caltrans facilities and shall provide fair-share funding to address impacts to Caltrans facilities, as feasible.

Goal CD19 Roadway design, development patterns, and circulation systems that encourage walking, bicycling, and transit use.

Policy CD19.3 New developments in the Valley Growth Boundary should provide focused nodes of population and employment density around transit stops, planned in coordination with Tuba-Sutter Transit, with a target of 9 units per acre of residential development, 20 employees per acre for nonresidential development, or 20 or more persons plus employees per acre for missed-use development within ¼ mile of existing and planned transit stops.

Policy CD19.5 New developments shall include the construction or pro-rata funding of transportation infrastructure that may include a connected and integrated system of bicycle and pedestrian facilities, consistent with County standards.

Policy CD19.6 New developments shall provide attractive streetscapes with street trees and sidewalks, planting stripes, transit shelters, benches, and pedestrian-scale lighting, as required by County standards, as well as safe and frequent crosswalks along roadways, particularly in areas expected to have higher pedestrian traffic.

Goal CD20 Multiple connections to promote circulation and emergency access throughout valley and foothill communities.

Policy CD20.1 New developments shall be designed to discourage concentration of traffic at a few intersections. Multiple points of access shall be provided, wherever feasible.

Policy CD20.3 New developments shall connect with adjacent roadways and stubbed roads and shall provide frequent stubbed roadways in coordination with future planned development areas. Plans and projects shall connect to adjacent planned development areas and adjacent roadways at a minimum of 600-foot intervals. This minimum interval does not apply to development areas that are adjacent to existing or planned future limited-access highways, freeways, or expressways, or other areas where physical constraints would make this level of connectivity infeasible.

Policy CD20.8 Speed bumps, which can inhibit connectivity and emergency access, are discouraged as a method of traffic calming.

Goal CD21 Efficient and well designed parking that considers the convenience of Yuba County's drivers and the needs of pedestrians, bicyclists, and transit users.

Policy CD21.1 New development projects should be designed to minimize the amount of on-site land required to meet parking, internal circulation, and delivery/loading needs.

Policy CD21.2 New developments shall break up any proposed surface parking with landscaping and provide pedestrian routes from parking areas to building entrances.

Policy CD21.3 Land uses with different parking needs that peak at different times of the day should maximize opportunities to share parking, where feasible.

Policy CD21.4 In Rural Communities and the Valley Growth Boundary, parking areas for nonresidential uses should be generally be focused to the side or rear or the facility being served.

Policy CD21.5 New developments shall plant at least one tree for every four parking spaces or shall demonstrate adequate planting to provide at least 50 percent shading or parking areas maturity.

Yuba County Bikeway Master Plan

The Yuba County Bikeway Master Plan is a planning document to promote bicycle travel within County through providing well-maintained facilities that promote public use. The County created this document in order to quality for Caltrans grant funds through the Bicycle Transportation Account. The County is in the process of updating the Bikeway Master Plan to reflect the current growth in County in order to still quality for the Bicycle Transportation Account in accordance with California Streets and Highways Code, Sections 891.2 and 891.4. The goals, policies and actions are complimentary to the polices within the County 2030 General Plan and its objectives of establishing and maintaining a continuous, safe, and easily accessible system of bikeways throughout the county that will facilitate an increase in bicycling. The following goals are relevant in this TEIR:

- A transportation system that is safe for bicycle use, with reduced numbers of bicycle-related collisions.
- Promote the integration of bicycle infrastructure with other forms of transportation, including public transit.
- Promote the integration of bicycle infrastructure with other forms of transportation, including public transit.
- Integrate the consideration of bicycle travel into planning activities, development review, and design.
- Schedule bikeway expansion projects to occur with other roadway improvement projects such as maintenance or new roadway construction.

Sacramento Area of Council of Governments

The SACOG does transportation planning and provides funding for the Sacramento Area, which includes several counties including Yuba County. SACOG assists with resolutions of regional issues and providing a forum for regional issues. In addition to preparing the region's long-range transportation plan, SACOG assists in planning for transit, bicycle networks, clean air and airport land uses. SACOG authors and is responsible for updating and maintaining the Metropolitan Transportation Plan/Sustainable Communities Strategy. This is a planning document that is applicable to the Sacramento Area and addresses topics such as transportation, air quality, and natural resources.

3.11.2 ENVIRONMENTAL SETTING

Existing Off-Reservation Roadway Network

Major off-reservation roadways in the vicinity of the Proposed Project include two state routes under the jurisdiction of Caltrans, various County roads, and private roads. The following is a description of the off-reservation roadway network that provides access to the Project Site.

State Route 65

State Route 65 changes between being a divided/undivided, four to two-lane highway running southeast to northwest depending on location. SR-65 provides local and regional access to the Project Site. SR-65 begins in the City of Rocklin southeast of the Project Site and terminates when it merges with SR-70

northeast of the Project Site. A notable intersection on SR-65 is S Beale Road that serves as the primary access point to the Beale Air Force Base.

State Route 70

State Route 70 is a divided four-lane highway running south to north that provides local and regional access to the Project Site. SR-70 begins south of the Project Site when it branches off of SR-99 and terminates when it merges with SR-395 northeast of the Project Site.

Forty Mile Rd

Forty Mile Rd is a four-lane roadway that runs south to north and provides direct access to the Project Site. Forth Mile Rd has connections to SR-65 and Plumas Arboga Road.

Plumas Arboga Road

Plumas Arboga Road is a two-lane roadway that runs east to west and provides local access to the Project Site. The road has connections to SR-70 and Forty Mile Rd.

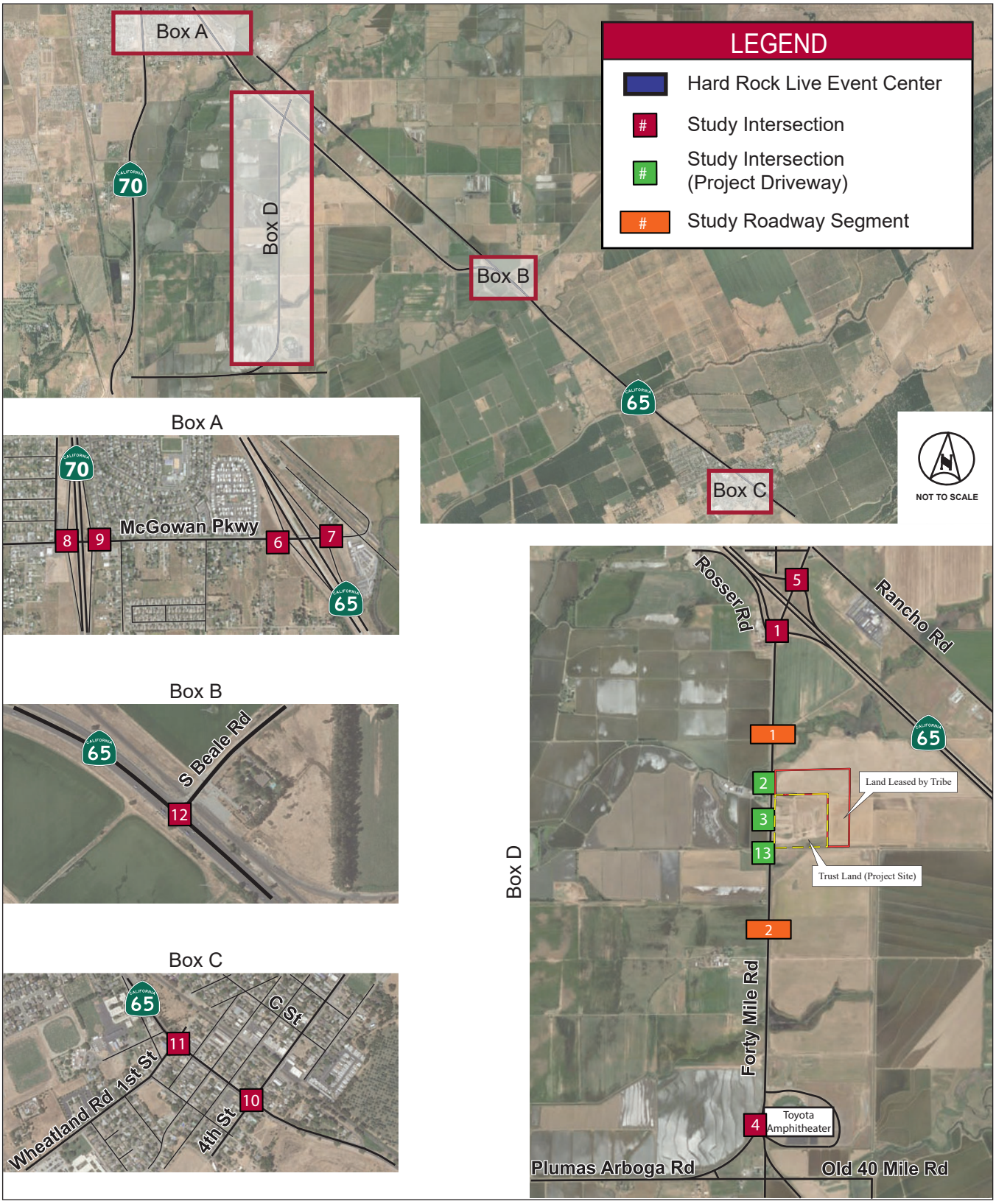
McGowan Parkway

McGowan Parkway is a two-lane road that runs east to west and provides access to SR-65 and SR-70 in the City of Olivehurst.

Study Roadway Intersections and Segments

The off-reservation roadway intersections and segments included in the traffic memo were identified based on relevance to the Proposed Project and previous discussions with Caltrans, the County, and the Tribe. **Figure 3.11-1** identifies the locations of the study area intersections and roadway segments. Access to the Project Site is provided via three full-access driveways along Forty Mile Rd, two of which are existing and the other will be constructed as part of the aforementioned Gas Station Project (**Section 2.3**). Exhibit 3 of **Appendix D** illustrates the study facilities, existing traffic control, and existing lane configurations. The following intersections were examined:

1. Forty Mile Rd/Southbound (SB) SR-65 Ramps
2. Forty Mile Rd/Hard Rock Driveway (North)
3. Forty Mile Rd/Hard Rock Driveway (South)
4. Forty Mile Rd/Plumas Arboga Road
5. Forty Mile Rd/Northbound (NB) SR-65 Ramps
6. McGowan Parkway/SB SR-65 Ramps
7. McGowan Parkway/NB SR-65 Ramps
8. McGowan Parkway/SB State Route 70 (SR-70) Ramps
9. McGowan Parkway/NB SR-70 Ramps
10. SR-65/Main Street (Wheatland)
11. SR-65/First Street (Wheatland)
12. SR-65/South Beale Road
13. *Forty Mile Rd/Hard Rock/Gas Station Driveway (future)*



SOURCE: Kimley-Horn, 2021; AES, 2/24/2021

Figure 3.11-1
Study Intersections and Roadway Segments

In addition, the following roadway segments were evaluated:

1. Forty Mile Rd, north of Resort
2. Forty Mile Rd, south of Resort

Analysis Methodology

Traffic evaluations were performed in accordance with the state of the traffic engineering practice. The existing conditions, known as Existing (2020) Conditions, were established using a combination of on-the-ground traffic counts and the Resort patron data. The primary metrics used for the Existing (2020) Conditions evaluation were Level of Service, traffic volume, and patron data, which are explained in greater detail below.

Existing Traffic Volumes

Existing (2020) Conditions' traffic volumes were established by using a combination of Hard Rock Hotel & Casino patron data and on-the-ground counts. Due to the on-going global COVID-19 pandemic, traffic count data obtained after approximately mid-March 2020 is considered to be reflective of a hybrid set of factors in which travel behavior is modified and not reflective of "normal" conditions. Due to this dynamic, the following approach was applied to establish baseline conditions:

- Hard Rock Hotel & Casino patron data was obtained for the pre-COVID months of January and February 2020 as well as the months of October and November 2020.
- On-the-ground traffic counts were collected in November 2020 and January 2021 for the study facilities' weekday and weekend PM peak-periods (4:00 – 6:00 PM weekdays, 4:00 – 8:00 PM weekends).
- The patron data, both pre-COVID and current, reveals that the Saturday PM peak-hour is the highest patron, and therefore highest traffic generating period. However, Friday PM peak-hour traffic counts are higher than Saturday PM peak-hour traffic counts. Accordingly, the more conservative Friday PM peak-hour was used as the basis for weekend PM peak-hour traffic volumes.

As shown in **Table 3.11-1**, the average of October/November 2020 patron data (representative of ongoing COVID conditions) demonstrate an approximate 12 percent reduction in site activity when compared to the pre-COVID patron data from January/February 2020. For the purposes of the evaluation, the current patron data is approximated to be 15 percent lower than normal, pre- COVID conditions. Therefore, the traffic count data collected in November 2020 was manually adjusted by applying an adjustment factor of 1.15 (adding 15 percent) to reflect pre-COVID conditions.

TABLE 3.11-1. PRE-COVID AND CURRENT PATRON DATA

Time Period	Pre-COVID Average Hourly Patrons (January/February 2020)	Current Average Hourly Patrons (October/November 2020)	Percent of Pre-COVID Hourly Patrons
Friday, 4:00 p.m. - 8 p.m.	525	416	79.24%
Saturday, 4:00 p.m. - 8 p.m.	679	603	88.91%
Source: Kimley-Horn, 2021 (**Appendix D**).			

Level of Service

Analysis of transportation facility significant environmental impacts is often based on the concept of Level of Service (LOS). The LOS of a facility is a quantitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. LOS for existing conditions were determined using methods defined in the Highway Capacity Manual (HCM) 6th Edition. For intersections, the HCM includes procedures for analyzing side-street stop controlled (SSSC) intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach or movement. **Table 3.11-2** presents intersection LOS definitions as defined in the HCM. The HCM also includes procedures for analyzing multi-lane roadway segments. LOS for these facilities are determined based on the density of the traffic stream. The LOS criteria per the Yuba County guidelines for multi-lane segments are shown in **Table 3.11-3**.

TABLE 3.11-2. INTERSECTION LEVEL OF SERVICE CRITERIA

Level of Service (LOS)	Un-Signalized	Signalized
	Average Control Delay (second/vehicle)	Average Control Delay (second/vehicle)
A	≤ 10	≤ 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80
Source: Kimley-Horn, 2021 (**Appendix D**).		

TABLE 3.11-3. ROADWAY SEGMENT LEVEL OF SERVICE CRITERIA

Roadway Classification	Maximum Peak Hour Volume				
	LOS A	LOS B	LOS C	LOS D	LOS E
Four-Lane Urban Arterial, Undivided	-	-	1,750	2,740	2,890
Source: Kimley-Horn, 2021 (**Appendix D**).					

The County 2030 General Plan specifies that LOS D shall be maintained on County roads in rural areas. Thus, D or higher is considered an acceptable LOS level for roads in County. The LOS evaluation for the study intersections were evaluated for weekday and weekend PM peak-hour and study roadway segments were evaluated for the weekend PM peak-hour. For the weekend PM peak-hour, Friday PM peak-hour was used because it is estimated to be the period of the highest traffic volume**. Table 3.11-4** and **Table 3.11-5** exemplifies the current LOS levels of the study intersections and roadway segments specified above. Currently all intersections are at LOS C or better, with the exception of McGowan Parkway at NB SR-70 Ramps, SR-65 at Main Street, and SR-65 at South Beale Road.

TABLE 3.11-4. EXISTING INTERSECTION LEVEL OF SERVICE

ID	Intersection	Control	Peak Hour	Existing (2020)	
				Delay (second)	LOS
1	Forty Mile Rd/SB SR-65 Ramps	SSSC	Weekday PM	4.1 (11.5 EB)	B
			Weekend PM	3.3 (10.2 EB)	B
2	Forty Mile Rd/Hard Rock North Driveway	SSSC	Weekday PM	3.9 (10.4 WB)	B
			Weekend PM	3.7 (10.7 WB)	B
3	Forty Mile Rd/Hard Rock South Driveway	SSSC	Weekday PM	2.9 (10.6 WB)	B
			Weekend PM	2.8 (10.2 WB)	B
4	Forty Mile Rd/Plumas Arboga Road	SSSC	Weekday PM	4.3 (13.4 WB)	B
			Weekend PM	4.3 (12.3 WB)	B
5	Forty Mile Rd/NB SR-65 Ramps	SSSC	Weekday PM	6.3 (20.4 WB)	C
			Weekend PM	8.5 (26.2 WB)	D
6	McGowan Parkway/SB SR-65 Ramps	SSSC	Weekday PM	2.5 (12.1 SB)	B
			Weekend PM	2.8 (11.7 SB)	B
7	McGowan Parkway/NB SR-65 Ramps	SSSC	Weekday PM	7.2 (14.3 NB)	B
			Weekend PM	8.4 (15.7 NB)	C
8	McGowan Parkway/SB SR-70 Ramps	SSSC	Weekday PM	5.1 (20.5 SB)	C
			Weekend PM	4.4 (17.5 SB)	C
9	McGowan Parkway/NB SR-70 Ramps	SSSC	Weekday PM	**49.4 (196.9 NB)**	**F**
			Weekend PM	**26.1 (130.1 NB)**	**F**
10	SR-65/Main Street (Wheatland)	Signal	Weekday PM	**201.5**	**F**
			Weekend PM	**193.8**	**F**
11	SR-65/First Street (Wheatland)	Signal	Weekday PM	33.5	C
			Weekend PM	35.5	D
12	SR-65/South Beale Road	SSSC	Weekday PM	**10.4 (104.9 WB)**	**F**
			Weekend PM	**11.5 (166.8 WB)**	**F**
13	Forty Mile Rd/Gas Station Driveway	SSSC	Weekday PM		
			Weekend PM		

Note: SSSC intersections are reported with the intersection delay followed by the worst approach's delay. The reported LOS corresponds to the worst approach. Bold represents unacceptable operations.
SSSC = Side Street Stop Controlled; EB = Eastbound; WB = Westbound
Source: Kimley-Horn, 2021 (**Appendix D**).

TABLE 3.11-5. EXISTING ROADWAY SEGMENT LEVEL OF SERVICE

ID	Location	Analysis Direction	Existing (2020)	
			Peak-Hour Volume	LOS
1	Forty Mile Rd, North of Hard Rock Hotel	NB	271	C or better
		SB	262	C or better
2	Forty Mile Rd, South of Hard Rock Hotel	NB	252	C or better
		SB	143	C or better

Note: Roadway Segment 1 and 2 are Arterial (Urban) Four-Lane.
NB = Northbound; SB = Southbound
Source: Kimley-Horn, 2021 (**Appendix D**).

Existing Bicycle and Pedestrian Facilities

Bicycle facilities include bike paths, bike lanes, and bike routes. Bike paths are dedicated paved trails separated from roadways, while bike lanes are lanes on roadways designated by striping, pavement legends, and signs. Bike routes are roadways that are designated for bicycle use but do not provide dedicated or demarcated lanes for use; bicycles share the roadway with vehicles along bike routes.

No bike paths or bike lanes are present in the Proposed Project or at the Resort. There are also no bicycle facilitates in the immediate area surrounding the Project Site, but bicycle facilities are available in the City of Olivehurst located northwest of the Project Site. Furthermore, Caltrans permits bicycling on SR-65, but it does not permit bicycling on the segment between South Beale Road and SR-70 intersection (Yuba County, 2011). Bike lanes are proposed for Forty Mile Rd and Plumas Arboga Road in the County 2030 General Plan and in the Bikeway Master Plan.

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. The Resort includes limited pedestrian facilities onsite. No pedestrian facilities are present in the Proposed Project. The area surrounding the Project Site has limited pedestrian facilities.

3.11.3 IMPACT ANALYSIS

Significance Criteria

The following criteria are established by the Environmental Impact Analysis Checklist attached to the Procedures as Appendix B (Checklist) (**Appendix A**) and are used in this section to evaluate the potential off-reservation environmental impacts of the Proposed Project on off-reservation transportation and traffic. Such an impact is considered significant if it would:

- 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);
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated off-reservation roads or highways;
- Substantially increase hazards to an off-reservation design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- Result in inadequate emergency access for off-reservation responders.

Potential off-reservation impacts of the Proposed Project were determined by comparing conditions with the Proposed Project to those without the Proposed Project. A significant impact would occur at a study area intersection or on a study area roadway segment if the addition of project-related traffic would result in an exceedance of the applicable LOS acceptability threshold. The Yuba County General Plan specifies that LOS D shall be maintained on County roads in rural areas, thus LOS D was considered the threshold for this traffic evaluation.

Methodology

Analysis Scenarios

To analyze the impacts of the Proposed Project on off-reservation traffic, increases to Existing (2020) vehicle traffic for the study roadway network that would likely occur without the Proposed Project were forecasted to 2021, the proposed initial year of operation of the Proposed Project, in order to establish

an accurate set of "baseline conditions." Off-reservation traffic impacts attributable to the Proposed Project were then compared to the baseline condition.

Although not a part of the Proposed Project, a Gas Station Project with an entrance from Forty Mile Rd is also being developed on the Hard Rock Hotel & Casino Sacramento site and is assumed to be operational at the time the Proposed Project is completed. Opening Year (2021) Conditions were established by adding the traffic and access modifications associated with the proposed separate Gas Station Project and additional driveway to the Existing (2020) Conditions. **Table 3.11-6** presents the trip generation for the Gas Station Project.

TABLE 3.11-6. PROPOSED GAS STATION PROJECT TRIP GENERATION

Land Use (ITE Code)	Size (thousand square feet))	Daily Trips	PM Peak-Hour of Generator				
			Total Trips	In		Out	
				%	Trips	%	Trips
Gasoline/Service Station (944)	3.000	3,609	358	50%	179	50%	179
Convenience Market (851)	0.500	381	27	51%	14	49%	13
Subtotal Trips		**3,990**	**385**		**193**		**192**
Internal Reduction from Hard Rock Hotel & Casino (Enter 25%, Exit 25%)		-998	-96		-48		-48
Net New Project Trips		**2,992**	**289**		**145**		**144**
Source: Kimley-Horn, 2021 (**Appendix D**).							

Opening Year (2021) Conditions – Intersection and Roadway Segment Operating Conditions

LOS operating conditions of the study area intersections and roadway segments under the Opening Year (2021) Conditions were analyzed using the same methods used for the analysis of existing conditions, and those operating conditions are identified in **Table 3.11-7** and **Table 3.11-8**, respectively.

According to the results of the analysis, all of the study area intersections and roadway segments continue to operate at acceptable LOS under Opening Year (2021) Conditions, with the exception of Forty Mile Rd at NB SR-65 Ramps, McGowan Parkway at NB SR-70 Ramps, SR-65 at Main Street, and SR-65 at South Beale Road. Turning movements and traffic volumes for the Opening Year (2021) Conditions are provided in the traffic memo (**Appendix D**).

TABLE 3.11-7. OPENING YEAR (2021) INTERSECTION LEVEL OF SERVICE

ID	Intersection	Control	Peak Hour	Opening Year (2021)	
				Delay (second)	LOS
1	Forty Mile Rd/SB SR-65 Ramps	SSSC	Weekday PM	4.5 (12.6 EB)	B
			Weekend PM	3.7 (11.1 EB)	B
2	Forty Mile Rd/Hard Rock North Driveway	SSSC	Weekday PM	3.3 (11.3 WB)	B
			Weekend PM	3.1 (11.5 WB)	B
3	Forty Mile Rd/Hard Rock South Driveway	SSSC	Weekday PM	3.6 (11.4 WB)	B
			Weekend PM	3.6 (10.9 WB)	B
4	Forty Mile Rd/Plumas Arboga Road	SSSC	Weekday PM	4.0 (15.9 WB)	C
			Weekend PM	3.9 (14.3 WB)	B
5	Forty Mile Rd/NB SR-65 Ramps	SSSC	Weekday PM	**10.1 (35.8 WB)**	**E**
			Weekend PM	**15.6 (58.9 WB)**	**F**
6	McGowan Parkway/SB SR-65 Ramps	SSSC	Weekday PM	2.4 (12.3 SB)	B
			Weekend PM	2.7 (11.9 SB)	B
7	McGowan Parkway/NB SR-65 Ramps	SSSC	Weekday PM	7.6 (14.8 NB)	B
			Weekend PM	8.8 (16.2 NB)	C
8	McGowan Parkway/SB SR-70 Ramps	SSSC	Weekday PM	5.3 (21.6 SB)	C
			Weekend PM	4.5 (18.2 SB)	C
9	McGowan Parkway/NB SR-70 Ramps	SSSC	Weekday PM	**54.1 (215.9 NB)**	**F**
			Weekend PM	**28.4 (140.7 NB)**	**F**
10	SR-65/Main Street (Wheatland)	Signal	Weekday PM	**203.7**	**F**
			Weekend PM	**196.2**	**F**
11	SR-65/First Street (Wheatland)	Signal	Weekday PM	35.4	D
			Weekend PM	37.0	D
12	SR-65/South Beale Road	SSSC	Weekday PM	**12.0 (118.9 WB)**	**F**
			Weekend PM	**13.0 (184.7 WB)**	**F**
13	Forty Mile Rd/Gas Station Driveway	SSSC	Weekday PM	2.2 (5.6 SB)	A
			Weekend PM	2.2 (5.6 SB)	A

Note: SSSC intersections are reported with the intersection delay followed by the delay of the worst approach. The reported LOS corresponds to the worst approach. Bold represents unacceptable operations.
SSSC = Side Street Stop Controlled; EB = Eastbound; WB = Westbound
Source: Kimley-Horn, 2021 (**Appendix D**).

TABLE 3.11-8. OPENING YEAR (2021) ROADWAY SEGMENT LEVEL OF SERVICE

ID	Location	Analysis Direction	Opening Year (2021)	
			Peak-Hour Volume	LOS
1	Forty Mile Rd, North of Hard Rock Hotel	NB	364	C or better
		SB	341	C or better
2	Forty Mile Rd, South of Hard Rock Hotel	NB	316	C or better
		SB	194	C or better

Note: Roadway Segment 1 and 2 are Arterial (Urban) Four-Lane.
NB = Northbound; SB = Southbound
Source: Kimley-Horn, 2021 (**Appendix D**).

Construction

The construction phase of the Proposed Project would include potential off-reservation traffic impacts related to construction worker trips to and from the Project Site, and importation and exportation of construction material and equipment. The principal activities expected to generate traffic during the construction phase of the Proposed Project are the following:

- The number of trucks required to deliver construction materials to the Project Site, including building materials such as wood, steel, and masonry;
- The number of construction workers estimated to be onsite during different construction activities throughout construction of the Proposed Project. Each construction worker is conservatively assumed to drive alone to and from the Project Site each day, and it is assumed that 20 percent of the construction workers leave and return to the Project Site for various purposes throughout the day; and
- The number of large construction vehicles expected to be delivered to and removed from the Proposed Project site during different construction activities throughout construction of the Proposed Project. The amount of heavy equipment expected to be delivered to and removed from the Project Site as part of the construction of the Proposed Project was provided by the Tribe.

Each activity listed above would generate different volumes of construction traffic during different stages of construction throughout the construction of the Proposed Project. For example, the delivery and removal of heavy equipment to the Project Site would occur periodically throughout the construction period. It is estimated that it would take 12 months to complete construction of the Proposed Project.

Operation

To determine the potential off-reservation impacts of operation of the Proposed Project on the off-reservation roadway network, Opening Year (2021) plus Proposed Project Conditions were established by adding the traffic from the Proposed Project to the Opening Year (2021) Conditions. The LOS of the study area intersections and roadway segments after the addition of new trips generated by the Proposed Project were determined and then compared to the jurisdictional agencies' applicable LOS acceptability criteria.

Proposed Project Trip Generation

Trip generation rates for the Proposed Project were based on a previous published study of a similar tribal casino event center facility at a rural location in northern California. The land use interaction between the previously studied casino and the event facilities and the Proposed Project's interaction with the existing Resort is anticipated to be similar.

The previous study (Kimley-Horn and Associates, June 2010) considered the top sixteen special events which occurred on Fridays or Saturdays over the course of a twelve-month period. Ticket counts for each event, along with person counts via automatic counters at the multiple entrances to the event facility, were used to estimate the proportion of patrons arriving from outside and within the casino resort. More specifically, for each day included in the sample, daily patron counts from the automatic counters were used to calculate an average total daily patron count on event days. Of the sixteen samples, the average number of attendees at the event center was then compared to the average facility patron count from a sampling of the most recent non-event days. If people attending the events

did not participate in gaming activities during their same visit, the increase in the daily patron count on event days would be equal to the average attendance at the events considered. However, the actual difference in person counts visiting the facility as a whole on event days versus non-event days was several hundred people. Using this data, it was possible to reasonably conclude that approximately 70 percent of the event center patrons would have visited the facility even without an event. As a result, the remaining 30 percent of the patrons represent new trips that would not have been expected to occur without the event venue. In an effort to be consistent, 30 percent of the Proposed Hard Rock Live's patrons are considered to be new trips to the existing hotel and casino site.

Vehicle occupancy was also based on the previously published Casino/Event Center study. The previous study indicated a vehicle occupancy of 2.60 passengers per vehicle. As stated above, 70 percent of the patrons visiting the Proposed Hard Rock Live Project are anticipated to have already been on-site with the remaining 30 percent of the patrons representing new trips. Applying the average auto occupancy of 2.60 people per vehicle translates to approximately 346 new trips generated (30% *3,000 / 2.60 = 346). It was assumed that of the "new" trips generated by the Proposed Hard Rock Live Project, 25 percent of the patrons would be expected to have arrived during the PM peak-hour before the start of the event. The remaining patrons are assumed to arrive early, considerably earlier than show time, to gamble and eat/drink onsite. Thus, 87 new trips (25% * 346 = 87) are considered to be generated by the 3,000-seat Proposed Project during the PM peak-hour. Lastly, 10 percent of these trips (10% * 87 = 9) were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits. This approach yields a total of 96 new peak hour trips (87 + 9 = 96) associated with the Proposed Project during the PM peak-hour.

Using the trip generation methodology described above, **Table 3.11-9** identifies the new vehicle trips attributable to the Proposed Project. The detailed trip generation calculations for the Proposed Project are provided in the traffic memo (**Appendix D**).

TABLE 3.11-9. TRIPS GENERATED BY THE PROPOSED PROJECT

Land Use	Size (seats)	Weekday PM Peak-Hour			Weekend PM Peak-Hour		
		Total Trips	In Trips	Out Trips	Total Trips	In Trips	Out Trips
Event Center	3,000	96	87	9	96	87	9
Net New Project Trips		**96**	**87**	**9**	**96**	**87**	**9**

Source: Kimley-Horn, 2021 (**Appendix D**).

To determine the potential impacts of the Proposed Project on the LOS operating conditions of the study area roadway network, the estimated number of additional vehicle trips generated by the Proposed Project (**Table 3.11-9**) were added to the Opening Year (2021) Conditions study area roadway intersection and roadway segment traffic levels. The result of that addition determines the Opening Year (2021) plus Proposed Project Condition traffic levels. Refer to **Appendix D** for further discussion regarding the methodology for this determination.

Trip Distribution and Assignment

The distribution of project traffic was developed based on existing roadway volumes in the vicinity of the Project Site, general knowledge of traffic patterns in the vicinity of the Project Site, and engineering

judgement. Project trips were assigned to the study intersections and the surrounding roadway network according to these patterns. The corresponding trip assignments to the study area roadway intersections are provided in the traffic memo (**Appendix D**).

Impact 3.11.1: The Proposed Project would not 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).

Approximately 50 pieces of heavy equipment would be used at various times during the construction of the Proposed Project. Delivery and removal of this heavy equipment would occur outside of the peak commute hours for the study area roadway network, and equipment would be moved on and off the Project Site on different days. The periodic delivery and removal of such equipment during off-peak hours would constitute a minimal disruption of off-reservation traffic on the study area roadway network. The relatively small number of trips required to make such deliveries and removals would not impact the existing traffic load or capacity of the off-reservation study area roadway network.

Once the Project Site is graded, construction materials, including raw materials, concrete, the parking lot base, and asphalt paving, would be imported to the Project Site. This would require approximately 20 truckloads per week. A full haul truck, because of its larger size and slower operating characteristics, is equivalent to approximately four passenger vehicles; an empty haul truck is equivalent to approximately two passenger vehicles. The material importation by truck equates to 16 passenger car-equivalent trips per day onto the Project Site and 8 passenger car-equivalent trips per day off of the Project Site. For comparison, the number of construction importation trips is approximately equivalent to 3 percent of the Saturday daily project trips. Because importation of construction materials would generate substantially less off-reservation traffic than the Proposed Project's equivalent passenger car traffic (even when added to the employee trips described below), and because the vehicles would travel through generally uncongested intersections, it should not significantly impact the capacity of any off-reservation study area intersection.

The weekday construction work for the Proposed Project would generally begin around 7:00 a.m. and end around 3:30 p.m. The construction worker arrival peak would occur between 6:00 a.m. and 7:00 a.m., and the departure peak would occur between 3:30 p.m. and 4:30 p.m. These peaks would generally be before the commute peaks for the study area roadway network, which are between 7:30 a.m. and 8:30 a.m. and between 5:00 p.m. and 6:00 p.m. During construction of the Proposed Project, approximately 425 construction workers at most would be onsite any time. The impacts of construction worker traffic on the study area roadway network would be less than significant because the construction worker commute peak and the typical commute peak would not overlap. Therefore, construction-related activities would have a less-than-significant impact on the operations of the off-reservation study area roadway network.

Impact 3.11.2: Operation of the Proposed Project would generate new vehicle trips that would cause an increase in off-reservation traffic; however, this increase would not cause any study area intersection to exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated off-reservation roads or highways.

The LOS for the Opening Year (2021) plus Proposed Project Condition for study area intersections are summarized in **Table 3.11-10**. The following intersections would operate under unacceptable conditions with the addition of vehicle trips attributable to the Proposed Project, resulting in a potentially significant impact:

- Forty Mile Rd at NB SR-65 Ramps (Weekday and Weekend PM peaks);
- McGowan Parkway at NB SR-70 Ramps (Weekday and Weekend PM peaks);
- SR-65 at Main Street (Weekday and Weekend PM peaks); and
- SR-65 at South Beale Road (Weekday and Weekend PM peaks).

Forty Mile Rd at NB SR-65 Ramps

The intersection of Forty Mile Rd at NB SR-65 Ramps operates sub standardly under Opening Year (2021) Conditions and the addition of the Proposed Project adds traffic to this deficient condition. This impact can be mitigated with the addition of All Way Stop Control (AWSC). The operations resulting from this mitigation are summarized in Table 13 of **Appendix D**. It is important to note that this intersection's operating conditions are consistent with the 2010 FEIS. Because this intersection operates at substandard levels without the Proposed Project, the Proposed Project should contribute its proportionate share toward future improvements determined by an Intersection Control Evaluation (ICE) to be completed.

McGowan Parkway at NB SR-70 Ramps

The intersection of McGowan Parkway at NB SR-70 Ramps operates sub standardly under Existing (2020) Conditions and the addition of the Proposed Project adds traffic to this deficient condition. However, the additional traffic produced from Proposed Project does not result in the peak-hour signal warrant being satisfied (**Appendix B**, Attachment C). This impact can be mitigated with the addition of traffic signal control. The operations resulting from this mitigation are summarized in Table 13 of **Appendix D**. It is important to note that this intersection's operating conditions are consistent with the 2010 FEIS. Because this intersection operates at substandard levels without the Proposed Project, the Proposed Project should contribute its proportionate share toward future improvements determined by an ICE to be completed.

SR-65 at Main Street

The intersection of SR-65 at Main Street operates sub standardly under Existing (2020) Conditions and the addition of the Proposed Project adds traffic to this deficient condition. It is important to note that this intersection's operating conditions are consistent with the 2010 FEIS. In fact, the 2010 FEIS' stated mitigations have already been constructed. Because this intersection operates at substandard levels without the Proposed Project, the Proposed Project should contribute its proportionate share toward improvements through Wheatland, understood to be in the form of a Wheatland Bypass.

TABLE 3.11-10. OPENING YEAR (2021) PLUS PROPOSED PROJECT INTERSECTION LEVEL OF SERVICE

ID	Intersection	Control	Peak Hour	Opening Year (2021) plus Proposed Project	
				Delay (second)	LOS
1	Forty Mile Rd/SB SR-65 Ramps	SSSC	Weekday PM	5.0 (13.4 EB)	B
			Weekend PM	4.2 (11.8 EB)	B
2	Forty Mile Rd/Hard Rock North Driveway	SSSC	Weekday PM	3.5 (11.6 WB)	B
			Weekend PM	3.5 (11.9 WB)	B
3	Forty Mile d/Hard Rock South Driveway	SSSC	Weekday PM	3.6 (11.8 WB)	B
			Weekend PM	3.5 (11.0 WB)	B
4	Forty Mile Rod/Plumas Arboga Road	SSSC	Weekday PM	4.0 (16.9 WB)	C
			Weekend PM	3.7 (15.0 WB)	C
5	Forty Mile Rd/NB SR-65 Ramps	SSSC	Weekday PM	**12.6 (44.9 WB)**	**E**
			Weekend PM	**20.9 (78.8 WB)**	**F**
6	McGowan Parkway/SB SR-65 Ramps	SSSC	Weekday PM	2.4 (12.3 SB)	B
			Weekend PM	2.7 (11.9 SB)	B
7	McGowan Parkway/NB SR-65 Ramps	SSSC	Weekday PM	7.6 (14.8 NB)	B
			Weekend PM	8.9 (16.3 NB)	C
8	McGowan Parkway/SB SR-70 Ramps	SSSC	Weekday PM	5.3 (21.9 SB)	C
			Weekend PM	4.5 (18.2 SB)	C
9	McGowan Parkway/NB SR-70 Ramps	SSSC	Weekday PM	**54.3 (214.8 NB)**	**F**
			Weekend PM	**28.6 (139.7 NB)**	**F**
10	SR-65/Main Street (Wheatland)	Signal	Weekday PM	**205.2**	**F**
			Weekend PM	**197.3**	**F**
11	SR-65/First Street (Wheatland)	Signal	Weekday PM	36.1	D
			Weekend PM	37.5	D
12	SR-65/South Beale Road	SSSC	Weekday PM	**12.3 (120.1 WB)**	**F**
			Weekend PM	**13.4 (185.5 WB)**	**F**
13	Forty Mile Rd/Gas Station Driveway	SSSC	Weekday PM	4.5 (9.5 WB)	A
			Weekend PM	4.5 (9.5 WB)	A

Note: SSSC intersections are reported with the intersection delay followed by the worst approach's delay. The reported LOS corresponds to the worst approach. Bold represents unacceptable operations.
SSSC = Side Street Stop Controlled; EB = Eastbound; WB = Westbound
Source: Kimley-Horn, 2021 (**Appendix D**).

SR-65 at South Beale Road

The intersection of SR-65 at South Beale Road operates sub standardly under Existing (2020) Conditions and the addition of the Proposed Project adds traffic to this deficient condition. However, the additional traffic produced from Proposed Project does not result in the peak-hour signal warrant being satisfied (**Appendix B**, Attachment C). This impact can be mitigated with the addition of traffic signal control. The operations resulting from this mitigation are summarized in Table 13 of **Appendix D**. Because this intersection operates at substandard levels without the Proposed Project, the Proposed Project should contribute its proportionate share toward future improvements determined by an Intersection Control Evaluation (ICE) to be completed.

With implementation of **Mitigation Measure 3.11-1**, off-reservation impacts at these intersections would be reduced to a less-than-significant level.

Impact 3.11.3: Operation of the Proposed Project would generate new vehicle trips that would cause an increase in off-reservation traffic; however, this increase would not cause any study area roadway segment to exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated off-reservation roads or highways.

As shown in **Table 3.11-11**, all of the study area roadway segments would continue to operate at an acceptable LOS under the Opening Year (2021) plus Proposed Project Condition. Therefore, the Proposed Project would not generate a number of new trips substantial enough to cause any study area roadway segment to operate below the applicable LOS standard. This impact would be less than significant.

TABLE 3.11-11. OPENING YEAR (2021) PLUS PROPOSED PROJECT ROADWAY SEGMENT LEVEL OF SERVICE

ID	Location	Analysis Direction	Opening Year (2021) Plus Proposed Project	
			Peak-Hour Volume	LOS
1	Forty Mile Rd, North of Hard Rock Hotel	NB	399	C or better
		SB	630	C or better
2	Forty Mile Rd, South of Hard Rock Hotel	NB	553	C or better
		SB	213	C or better

Note: Roadway Segment 1 and 2 are Arterial (Urban) Four-Lane.
NB = Northbound; SB = Southbound
Source: Kimley-Horn, 2021 (**Appendix D**).

Impact 3.11.4: The Proposed Project would not substantially increase hazards to an off-reservation design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Intersection Queuing Evaluation

For the queuing analysis, the anticipated vehicle queues for critical movements at selected intersections in the study area were evaluated based on results from Synchro traffic analysis software. The calculated vehicle queues were compared to actual or anticipated vehicle storage/segment lengths. Results of the queuing evaluation are presented in **Table 3.11-12**. Analysis sheets that include the anticipated vehicle queues are presented in **Appendix D**, Attachment B.

TABLE 3.11-12. INTERSECTION QUEUING EVALUATION

Intersection/Analysis Scenario	Movement	Available Storage (ft)	95th % Queue (ft)	
			Weekday PM Peak-Hour	Weekend PM Peak-Hour
#2, Forty Mile Rd @ Hard Rock North Driveway	**SBL**			
Existing (2020)		125	25	25
Opening Year (2021)			25	25
Opening Year (2021) plus Proposed Project			25	25
#3, Forty Mile Rd @ Hard Rock South Driveway	**SBL**			
Existing (2020)		125	25	25
Opening Year (2021)			25	25
Opening Year (2021) plus Proposed Project			25	25
#13, Forty Mile Rd @ Gas Station Driveway	**SBL**			
Existing (2020)		-		
Opening Year (2021)		125	25	25
Opening Year (2021) plus Proposed Project			25	25
#13, Forty Mile Rd @ Gas Station Driveway	**WBLR**			
Existing (2020)		-		
Opening Year (2021)		150	0	0
Opening Year (2021) plus Proposed Project			25	25

Source: Kimley-Horn, 2021 (**Appendix D**).

As presented in **Table 3.11-12**, the addition of the Proposed Project does not add more than one vehicle length to the queue lengths at the site driveways. Additionally, the Proposed Project would not modify the design of existing roadways and would not include operational features that would impact traffic or increase hazards. There would be a less-than-significant impact.

Impact 3.11.5: The Proposed Project would not result in inadequate emergency access for off-reservation responders.

The Proposed Project would not introduce factors that would generate new or unanticipated long-term changes in traffic. Construction impacts to traffic are negligible and temporary, and construction staging would occur on-site. As noted above, implementation of the Proposed Project would not result in unacceptable operations at intersections and roadway segments in the study area. Additionally, as described in **Section 2.3**, the Resort currently coordinates and supports CHP, Yuba County Sheriff officers, and the Toyota Amphitheater in the implementation of the amphitheater's traffic management plan during events, including providing Resort personnel to manually control traffic on Forty Mile Rd at the Resort entrances to facilitate ingress and egress of Resort visitors. Additionally, the Tribe currently contributes towards the amphitheater's payments for additional CHP and Yuba County Sheriff services during events. The Tribe's coordination during events at the amphitheater would not only continue after implementation of the Proposed Project, but would also be conducted during events at the proposed live music venue. Therefore, implementation of the Proposed Project would not significantly

impact emergency response or evacuation routes in the vicinity of the Project Site. There would be a less-than-significant impact.

3.11.4 MITIGATION MEASURES

The following mitigation measures are recommended to mitigate specific impacts identified in this TEIR:

3.11-1 Intersection Improvements

a. **Forty Mile Rd at NB SR-65 Ramps**: Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards future improvements at this intersection as determined by an Intersection Control Evaluation (ICE).
b. **McGowan Parkway at NB SR-70 Ramps**: Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards future improvements at this intersection as determined by an Intersection Control Evaluation (ICE).
c. **SR-65 at Main Street**: Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards improvements throughout Wheatland, including the Wheatland Bypass.
d. **SR-65 at South Beale Road**: The Tribe shall contribute its proportionate share towards future improvements at this intersection as determined by an Intersection Control Evaluation (ICE).

3.12 INDIRECT AND CUMULATIVE OFF-RESERVATION ENVIRONMENTAL IMPACTS

In accordance with the Procedures, this section addresses the off-reservation indirect effects, including growth-inducing indirect effects, and cumulative off-reservation environmental impacts of the Proposed Project. This section analyzes the potential for the Proposed Project to result in substantial off-reservation indirect effects associated with the implementation of mitigation measures (**Section 3.12.2**), and population growth attributable to the Proposed Project (**Section 3.12.1**). For cumulative environmental impacts (**Section 3.12.3**), this section defines the environment in which cumulative impacts might occur and describes the methodologies utilized to assess whether the impacts of the Proposed Project, when combined with other past, present, and probable future projects, would be cumulatively considerable. Where off-reservation environmental impacts of the Proposed Project are determined to be cumulatively considerable and potentially significant, mitigation is recommended.

3.12.1 GROWTH-INDUCING OFF-RESERVATION IMPACTS OF THE PROPOSED PROJECT

A growth-inducing impact is an impact that fosters population growth, either directly or indirectly, leading to the construction of housing, commercial development, or infrastructure to support that growth. The local region may be affected by population growth in other areas because of other development within Yuba County (County). Population growth may cause an increase in housing costs, additional housing construction, effects on the labor pool, and/or a reduction in unemployment in the region. Growth inducement may constitute an adverse impact on the off-reservation environment if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans are typically intended to lead to orderly urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer services, and solid waste services. A project that would induce "disorderly" growth (i.e., growth that conflicts with the local land use plans) could cause significant environmental impacts.

Yuba County Employment

Historical labor data for Yuba County obtained from the U.S. Census Bureau was analyzed to assess the existing off-reservation labor force compared to the number of new jobs that would be generated by the Proposed Project. From 2015 through 2019, Yuba County maintained an average labor force of approximately 28,760 people. Of these, approximately 2,317 (7.4 percent) were unemployed, which was slightly higher than the unemployment rate for the state (6.1 percent) during the same period (EDD, 2021; U.S. Census, 2019). By February 2020, Yuba County had a labor force of 30,900 people. Of these, approximately 2,100 (6.9 percent) were unemployed, which was higher than the unemployment rate for the state (3.9 percent) during the same period (EDD, 2021; BLS, 2020).

According to current employment data for the Resort and projected employment data for the Proposed Project supplied by the Tribe (**Section 3.8**, **Land Use and Population and Housing**), approximately 1,106 employees are employed by the Resort and an increase of an additional estimated 45 employees will be employed as a result of the Proposed Project. Most of the Resort's current employees reside in Yuba County including nearby towns, such as Marysville, Wheatland, Olivehurst, and Plumas Lakes. New employees as a result of the Proposed Project are anticipated to also reside in Yuba County.

Based on the unemployment rate for the County in 2020, the Yuba County labor force will have more than enough unemployed residents to fill all the new positions generated by the Proposed Project.

Yuba County Housing Market

Yuba County housing market data was obtained from California Department of Finance information for 2010 to 2020. Based on this data, it was determined that the total number of housing units in the County has been increasing annually by 0.52 percent, while the number of vacant units in the County has been decreasing annually by 0.76 percent. The current County housing stock information is discussed in **Section 3.8**, **Land Use, Agricultural Resources, Population and Housing, and Recreation and Parks**.

The Proposed Project would not substantially affect the availability or affordability of housing units in the County. New Proposed Project employees that already live within the region are assumed to continue to occupy their existing housing. New employees recruited from outside the region are too few in number to affect the Yuba County housing market as a whole. Accordingly, the Proposed Project would not have a significant impact on the off-reservation Yuba County housing market.

Off-Reservation Population Growth Attributable to Proposed Project Infrastructure

As discussed in **Section 3.7**, **Hydrology and Water Quality**, potable water would be supplied to the Proposed Project by means of the existing groundwater well and the existing water storage tank that serves the Resort and is located on property owned by the Tribe. Use of this well would not induce growth because the well would continue to only serve the Resort and the Proposed Project.

As discussed in **Section 3.7**, **Hydrology and Water Quality**, the Tribe operates a wastewater treatment plant (WWTP) on the trust land adjacent to the Resort. The WWTP will not be modified to accommodate the additional water and wastewater to be treated and disposed of because of the Proposed Project. The WWTP, which will not be modified by the Proposed Project, would continue to be required to comply with all applicable requirements of the CVRWQCB. The WWTP would continue only serve the Resort and the Proposed Project.

No other off-reservation increases in infrastructure capacity are required for the Proposed Project. Therefore, due to the relatively small scale of the additional operations for the Proposed Project compared with the existing Resort operations, the Proposed Project would not create significant off-reservation population growth-inducing impacts.

3.12.2 INDIRECT OFF-RESERVATION IMPACTS OF THE PROPOSED PROJECT

Indirect effects are impacts that are caused by an action that is later in time or farther removed in distance but is a reasonably foreseeable result of the proposed project. This section includes an analysis of indirect effects related to off-reservation traffic mitigation.

Indirect Impacts from Off-Reservation Traffic Mitigation

Off-Reservation traffic mitigation will potentially result in indirect effects to a variety of environmental areas, as addressed below. Specifically, this section analyzes the effects resulting from the construction of traffic mitigation measures, as described in **Section 3.11**, **Transportation/Traffic**. These improvements have been identified in response to impacts analyzed in **Section 3.11.3**. The off-reservation traffic mitigation includes the following intersection improvements:

- **Forty Mile Rd at Northbound State Route (SR)t-65 Ramps**: Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards the addition of AWSC at this intersection.
- **McGowan Parkway at Northbound SR-70 Ramps**: Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards the addition of traffic signal control at this intersection.
- **SR-65 at Main Street**: Consistent with the findings of the 2010 FEIS, the Tribe shall contribute its proportionate share towards improvements throughout Wheatland, including the Wheatland Bypass.
- **SR-65 at South Beale Road**: The Tribe shall contribute its proportionate share towards the addition of traffic signal control at this intersection.

Each of the off-reservation traffic improvements listed above are located within the existing right-of-way and are surrounded by ruderal vegetation and roadway shoulders neighboring agricultural areas. Off-reservation traffic mitigation would require obtaining approvals and permits from the California Department of Transportation (Caltrans), County and/or the City of Wheatland and may be subject to the California Environmental Quality Act (CEQA). Implementation of permitting and CEQA requirements would further reduce the potential for significant adverse impacts from off-reservation traffic mitigation.

Aesthetics

Visual effects would occur as the result of modification and expansion of existing roadways. However, because the improvements would conform to modern design standards and would be compatible visually with existing transportation facilities, a less-than-significant effect would occur.

Air Quality

Development of the off-reservation traffic mitigation would result in short-term construction-related air pollution emissions. The construction phase would produce two types of air contaminants: exhaust emissions from construction equipment and fugitive dust generated because of soil movement. Exhaust emissions from construction activities include those associated with the transport of workers and machinery to the site, as well as those produced on site as the equipment is used. Construction of improvements would be limited in scope and duration. Thus, a less than significant indirect effect would result. In addition, mitigation measures required by local jurisdictions to reduce construction emissions, in conjunction with required California Environmental Quality Act (CEQA) review, generally include watering the exposed soil to reduce dust, reducing speeds on all unpaved roads to 15 miles per hour, and maintaining equipment properly.

Long-Term effects from off-reservation traffic mitigation could result if the roadway improvements resulted in localized increases in carbon monoxide (CO) concentrations and/or if the improvements contributed to traffic congestion at large intersections. The construction of improvements would not result in adverse changes or redistribution in traffic volumes and vehicle trips. Conversely, the improvements would reduce congestion and improve traffic flow. This would reduce emissions from idling vehicles at these intersections and roadway segments. Indirect effects would therefore be less than significant.

Biological Resources

Construction of the off-reservation traffic mitigation could result in the removal of existing pavements and ruderal vegetation on roadway shoulders. Habitats within the areas of impact provide very limited habitat to wildlife and are not considered critical or sensitive as it is an agriculturally dominated area, where habitat quality is generally low. Construction of these improvements would not result in adverse effects to sensitive plant or animal species. Prior to construction, surveys for special-status species, nesting migratory birds, and sensitive habitats would be conducted in accordance with CEQA requirements. Therefore, potential impacts to biological resources from construction of off-site traffic mitigation improvements would be less than significant.

Cultural Resources

The construction of the off-reservation traffic mitigation would occur within existing rights-of-way. Therefore, construction of the off-reservation traffic mitigation would not disturb or destroy historical features and archaeological resources. Due to prior grading of the existing roadways and occasional traffic on roadsides it is likely that resources remaining in these areas are highly disturbed and lack integrity, thus diminishing the significance of the remaining resources and resulting in a less-than-significant indirect effect to cultural resources from the disturbance of roadside areas.

In addition, to address potential impacts to cultural resources, cultural surveys may be required to comply with CEQA before encroachment permits are issued. The lead agency under CEQA would be required to mitigate potential impacts to a less-than-significant level or to issue a finding of fact and statement of overriding considerations if significant impacts could not be mitigated. Mitigation may include the avoidance of resources, the preservation of key historical features, or the removal, documentation, and curation of cultural resources.

Geology and Soils

The construction of off-reservation traffic mitigation may require grading and the introduction of fill material. The increase in impervious surfaces and additional cut-and-fill could result in erosion of soils. Stable fill material, engineered embankments, and erosion control features would be used to reduce the potential for slope instability, subsidence, and erosion in accordance with the jurisdictional agency (Caltrans, County) requirements for roadway construction. With standard construction practices and specifications required by the jurisdictional agency there would be no adverse effects to geology and soils because of off-reservation traffic mitigation. The roadway improvements would not significantly affect the ability to extract minerals.

Hazards and Hazardous Materials

The accidental release of hazardous materials used during grading and construction activities could pose a hazard to construction employees and the environment. Additionally, equipment used during grading and construction activities could ignite dry grasses and weeds in construction areas. However, these hazards, which are common to construction activities, would be minimized with adherence to standard operating procedures, such as refueling in designated areas, storing hazardous materials in approved containers, and clearing dried vegetation. Such procedures are commonly required by local agencies as part of permit review and/or CEQA review for roadway improvements. These potential hazards would therefore be less than significant.

Hydrology and Water Quality

The development of off-reservation traffic mitigation could affect water resources due to grading and construction activities. Potential effects include an increase of surface runoff and increased erosion that could adversely affect surface water quality due to increases in sediment and roadway pollutants such as grease and oil.

Curb and gutters, inlets, and other drainage features would be constructed to meet the standards of the jurisdictional agency and provide adequate facilities to direct stormwater runoff. With incorporation of these drainage features and compliance with the relevant Stormwater Pollution Prevention Plan Best Management Practices (BMP), effects to water resources would be less than significant. Therefore, there would be no significant indirect effects to water resources because of off-reservation traffic mitigation.

Land Use and Population and Housing

Construction of off-reservation traffic mitigation would not result in adverse land use effects. The intersection improvements would be within existing rights-of-way, and the traffic improvements would not result in changes in land use inconsistent with the *Yuba County 2030 General Plan* (General Plan). There would be no significant indirect effects to land use.

Construction of off-reservation traffic mitigation would result in short-term inconveniences and minor delays due to constricted traffic movements and possible temporary detouring of traffic. The intersection improvements are not expected to result in long-term disruption of access to surrounding land uses or to minority or low-income populations.

Noise

Construction activities would result in short-term increases in the local ambient noise environments. However, because construction activities would be temporary in nature and are expected to occur during normal daytime hours, a less than significant effect is expected.

Public Services, Utilities, and Service Systems

The off-reservation traffic mitigation may require relocation of utilities near existing roadways. These utilities include overhead electricity lines and telecommunication lines. Relocation of these lines could result in a temporary break in service to some homes and businesses in the area. However, because these effects are common when upgrading and maintaining utility services, and because potential service breaks would be temporary, these effects are considered to be less than significant. No significant effects to police, fire, or emergency medical services are expected as access to homes and businesses would be maintained during the construction period.

Transportation/Traffic

Construction activities associate with the off-reservation traffic mitigation would be temporary in nature and would not result in any long-term transportation impacts. Additionally, operation of the improvements would not create additional vehicle trips, but rather the traffic mitigation improvements would accommodate future traffic conditions. Therefore, potential impacts to transportation from development of the off-site traffic mitigation improvements would be less than significant.

3.12.3 CUMULATIVE OFF-RESERVATION ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT

Cumulative off-reservation environmental impacts are those which result from the incremental off-reservation environmental impacts of a proposed project when added to other past, present, and probable future projects. The purpose of a cumulative effects analysis is to ensure that the full range of off-reservation consequences of a proposed project, as defined in the Procedures, is acknowledged.

The issue of cumulative effects is included in the *Environmental Impact Analysis Checklist* (Checklist; **Appendix A**). When assessing cumulative off-reservation environmental impacts, a Tribal Environmental Impact Report (TEIR) must identify whether the proposed project would make a "cumulatively considerable" contribution to the cumulative off-reservation environmental impacts of the proposed project and other past, present, and probable future projects. Even if the proposed project's individual off-reservation environmental impact is less than significant, the proposed project may have a cumulatively considerable impact once the proposed project's impact is added to the impacts of other past, present, and probable future projects. Cumulative off-reservation environmental impact discussions on the following pages include an analysis of the severity and likelihood of occurrence of any potential cumulative impacts of the Proposed Project.

Potentially Cumulative Projects

The cumulative setting for the Proposed Project is based on the buildout of the *Yuba County 2030 General Plan* (General Plan; Yuba County, 2011a). Additionally, known proposed, commenced, and completed development projects in the vicinity of the Project Site were considered, and were determined to include one separate project on the Project Site which consists of a 16-pump gas station, smoke shop, and convenience store (referred to as the "Gas Station Project"), and is anticipated to be operational prior to opening day of the Proposed Project. The environmental impacts of this project were considered when determining the cumulative off-reservation environmental impacts of the Proposed Project.

Off-Reservation Impact Analysis

Significance Criterion

The criterion used in this section to evaluate the potential for cumulative off-reservation environmental impacts to result from the Proposed Project is whether the Proposed Project would have off-reservation impacts that are individually limited, but cumulatively considerable by 2030 (the planning horizon in the General Plan). "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in combination with past, current, or probable future projects.

Methodology

There are two basic methods for determining the cumulative environment in which the Proposed Project is to be considered. The first approach includes the use of adopted projections from an approved regional planning document (i.e., a county general plan or a certified Environmental Impact Report of an approved planning document), while the second method involves considering past, present, and probable (future) projects. The cumulative off-reservation effects analysis in this section combines both methods to create an extremely conservative analysis of cumulative off-reservation impacts for the Proposed Project. The criterion discussed above, which was adopted from the

Procedures and Checklist (**Appendix A**), has been applied to each of the resource areas addressed in **Section 3.2** through **Section 3.11**.

Aesthetics

The Proposed Project has the potential to result in effects on aesthetics. However, with the implementation of **Mitigation Measure 3.2-1**, this off-reservation impact would be less than significant because the Proposed Project would be developed to be consistent with the existing aesthetics of the off-reservation environment in the vicinity of the Proposed Project. Additionally, the Proposed Project would be a lateral expansion of existing structures and would use similar architectural styles, colors, and materials to ensure a smooth visual transition from the existing Resort facilities to the components added by the Proposed Project.

In addition to the Proposed Project, a separate project which consists of a 16-pump gas station, smoke shop, and convenience store (the Gas Station Project), is anticipated to be constructed and operational prior to opening day of the Proposed Project. This separate project would be constructed in the southwest portion of the Project Site, visually hidden from the Proposed Project because of existing development, however visible to travelers along Forty Mile Rd. The Gas Station Project will also add a new entrance from Forty Mile Rd to Project Site on the south side of the Project Site and will have some related signage. There are no other foreseeable projects in the same viewshed as the Proposed Project. Therefore, the Proposed Project would not contribute to a cumulatively considerable impact with respect to off-reservation aesthetics.

Air Quality

Criteria Air Pollutants

Ozone and particulate matter are the primary air pollutants of concern affecting Yuba County (refer to **Section 3.3.2**). For a conservative analysis as well as an attempt to focus on air quality trends in the Yuba County region, project air quality effects are analyzed with the cumulative emissions associated with the county that includes the site. Therefore, cumulative air quality effects are assessed by comparing the incremental emissions associated with Proposed Project to Yuba County-wide emissions forecasted by the California Air Resources Board (CARB) for long-term cumulative conditions (2035, the farthest planning horizon for countywide emission forecasts). **Table 3.12-1** presents the 2035 Yuba County emissions inventory for pollutants of concern.

TABLE 3.12-1. 2035 EMISSIONS INVENTORY FOR YUBA COUNTY

Sources	Pollutant of Concern		
	ROG	NOx	PM_{10}
	tons per year		
Stationary	292	146	183
Area wide	1,132	73	1,497
Mobile	548	511	73
Total Emissions	**1,971**	**730**	**1,752**

Note: ROG = reactive organic gas; NO_x = nitrogen oxides; PM_{10} = particulate matter 10 microns in size or smaller
Source: CARB, 2016.

The Proposed Project would result in the generation of ozone precursors (reactive organic gas and nitrogen oxides) and particulate matter 10 microns in size or smaller. **Table 3.12-2** shows the projected operational emissions of the Proposed Project in the year 2035 and Proposed Project emissions as a percentage of the Yuba County emissions inventory. As shown in **Table 3.12-2**, 2035 Proposed Project-related emissions would not exceed Feather River Air Quality Management District (FRAQMD) thresholds or result in emissions greater than 10 percent of the Yuba County's emissions inventory. Therefore, operational emissions of the Proposed Project in the cumulative year 2035 would not contribute to cumulatively considerable impacts on off-reservation air quality.

TABLE 3.12-2. 2035 PROPOSED PROJECT UNMITIGATED OPERATIONAL EMISSIONS

Source	Pollutants of Concern		
	ROG	NO_X	PM_{10}
	tons/year		
Area	0.48	0.00	0.00
Energy	0.01	0.09	0.01
Mobile	0.07	0.25	0.37
Total Emissions (tons/year)	**0.56**	**0.34**	**0.38**
Percent of County Emissions	**0.03%**	**0.05%**	**0.02%**
Total Emissions (pounds per day)	**3.20**	**1.83**	**2.19**
FRAQMD thresholds (pounds per day)	*25*	*25*	*80*
Threshold Exceeded	**No**	**No**	**No**

Note: ROG = reactive organic gas; NO_x = nitrogen oxides; PM_{10} = particulate matter 10 microns in size or smaller
Source: **Appendix F**.

Carbon Monoxide

Under cumulative conditions, the study area roadway intersections would operate at an acceptable LOS after implementation of the recommended mitigation measures. Thus, no intersections would meet the CO evaluation criteria discussed in **Section 3.3**, **Air Quality**, that suggests modeling to assess impacts. The Proposed Project would not contribute to cumulatively considerable impacts with respect to off-reservation CO emissions.

Climate Change

Methodology

Greenhouse gas (GHG) emissions that are a direct result of the Proposed Project were estimated using the same California Emissions Estimator Model used in the quantification of CAP emissions. Equipment use, energy use, and mobile sources were estimated for the Proposed Project. The resulting GHG emissions estimates are presented below in **Table 3.12-3**.

Emission Estimates

As shown in **Table 3.12-3**, the Proposed Project would emit 1,273 metric tons (MT) of carbon dioxide equivalent (CO_2e) from construction activity over a 2-year period, and operation of the Proposed Project would result in annual emissions of 504 MT CO_2e per year.

TABLE 3.12-3. PROPOSED PROJECT GHG EMISSIONS

Source	MT CO_2e
Construction	
2021	859
2022	414
Total	**1,273**
Operational[1]	
Energy	168
Area	0.002
Energy	168
Mobile	259
Waste	10
Water	66
Total	**504**
Notes: [1] 2035 Unmitigated Emissions Source: **Appendix F**.	

As discussed in **Section 3.3.3**, the 2016 Council on Environmental Quality guidance does not establish any particular quantity of GHG emissions as "significantly" affecting the quality of the human environment or give greater consideration to the effects of GHG emissions and climate change over other effects on the human environment. However, the guidance does state that agencies should consider reasonable alternatives and mitigation measures to reduce action-related GHG emissions or increase carbon sequestration in the same fashion as they consider alternatives and mitigation measures for any other environmental effects.

To minimize mobile emissions and vehicle miles traveled (which make up more than 51 percent of projected GHG emissions), the Tribe would continue to implement existing programs that result in the use of multiple-occupancy vehicles by employees, including carpools, vanpools, and public transit incentives. Additionally, the Tribe would continue to use energy efficient appliances and lighting, use solar hot water heaters where feasible, enroll in in the ClimateSmart program offered to PG&E customers to reduce their indirect GHG emissions form electrical generation to zero, and plant trees and vegetation on-site to sequester carbon and provide shade to the building, thus reducing heat absorption, reducing air conditioning needs and saving energy. Therefore, the Proposed Project's contribution to cumulative GHG emissions and associated climate change effects would be less than significant.

Biological Resources

As discussed in **Section 3.4**, **Biological Resources**, construction of the Proposed Project has the potential to indirectly affect special-status species by disturbing off-reservation nesting sites and habitats. No other probable future projects would affect the same biological resources as the Proposed Project. Moreover, the homogeneity of available habitat in the region as a whole – even under cumulative conditions – indicates that the off-reservation impact of the Proposed Project (if any) would not be cumulatively considerable. The entirety of the current Casino Resort to which the Proposed Project is an

addition was fully mitigated when the Casino Resort and the related parking lots (where the Proposed Project is located) were originally built. Moreover, other regional development projects would implement site-specific mitigation measures in accordance with the requirements of CEQA and other land use and environmental laws protecting biological resources. Therefore, the Proposed Project would not contribute to cumulatively considerable impacts on off-reservation biological resources.

Geology and Soils

The Proposed Project has the potential to result in impacts related to soil erosion. However, with the implementation of **Mitigation Measure 3.7-1**, as discussed in **Section 3.7**, **Hydrology and Water Quality**, these impacts would be less than significant. In addition to the Proposed Project, a separate project (the Gas Station Project) which consists of a 16-pump gas station, smoke shop, and convenience store, is anticipated to be constructed and operational prior to opening day of the Proposed Project. This separate project will require approximately 4,000 cubic yards of earth fill to effectively grade the site prior to construction. The excavated soils will be collected and transported from an off-site location. There are no other foreseeable off-reservation projects in the immediate vicinity that would cause impacts that would combine with the impacts of the Proposed Project to create cumulatively considerable off-reservation impacts related to geology, soils, or mineral resources. Therefore, the Proposed Project would not contribute to a cumulatively considerable impact with respect to geology, soils, and mineral resources.

Hazards and Hazardous Materials

The Proposed Project would involve use and storage of limited hazardous materials. As described in **Section 3.7**, **Hydrology and Water Quality**, the Proposed Project, like all development projects over one acre in size, would obtain coverage under and comply with a Stormwater General National Pollutant Discharge Elimination System (NPDES) Permit for Construction Activities. As part of that permit, the Proposed Project would be subject to BMPs that reduce the likelihood of a hazardous material release. Overall, with the implementation of **Mitigation Measure 3.6-1** and **Mitigation Measure 3.7-2**, the Proposed Project's incremental contribution to creating a risk to human health and the environment would not be cumulatively considerable. Therefore, the Proposed Project would not result in significant cumulative off-reservation impacts with respect to hazardous materials. Additionally, because impacts on firefighting services would be less than significant (refer to **Section 3.10**, **Public Services and Utilities and Service Systems**) and because no other project is anticipated to affect service capabilities, the Proposed Project would not contribute to cumulatively considerable impacts concerning wildland fires.

Hydrology and Water Quality

Drainage and Flooding

As indicated in **Section 3.7**, **Hydrology and Water Quality**, construction and operation of the Proposed Project would cause a minimal increase in additional stormwater flows generated on site, which would be accommodated by the available capacity of the existing on and off-reservation stormwater drainage system. No modifications to the existing on or off-reservation drainage system are required for the Proposed Project. Because there are no other foreseeable projects whose off-reservation drainage and flooding impacts could interact cumulatively with those of the Proposed Project, no significant cumulative off-reservation impact would occur. Moreover, the contribution of the Proposed Project to countywide cumulative drainage and flooding issues (if any) would not be cumulatively considerable. Overall, the Proposed Project would not contribute to cumulatively considerable impacts with respect to off-reservation drainage and flooding.

Surface Water Quality

Construction

Construction of the Proposed Project has the potential to create off-reservation erosion, siltation, and runoff, which could affect surface water quality. However, with implementation of **Mitigation Measure 3.7-1**, these potential off-reservation impacts would be less than significant. There are no other foreseeable projects whose off-reservation drainage and flooding off-reservation impacts could interact cumulatively with those of the Proposed Project. Moreover, other projects elsewhere in the County would be required under the Clean Water Act to obtain NPDES permits and implement BMPs as mitigation to protect water quality.

Operation

Under the Proposed Project, treated wastewater disposal operations would be the same as under existing conditions and therefore would not be cumulatively considerable. Operation of the Proposed Project would not contribute to cumulatively considerable impacts on off-reservation water quality.

Groundwater Usage

As discussed in **Section 3.7**, **Hydrology and Water Quality**, implementation of the Proposed Project could result in a negligible drawdown of the groundwater table and is not considered a significant off-reservation impact given the high availability of groundwater in the aquifer. Therefore, the Proposed Project would not contribute to a significant cumulative impact on off-reservation groundwater in the region.

Groundwater Quality

As discussed in **Section 3.7**, **Hydrology and Water Quality**, continued on-site disposal of treated wastewater would not result in significant adverse impacts on off-site groundwater quality. There are no other foreseeable projects in the vicinity of the Proposed Project site that would have a cumulative relationship with respect to groundwater quality. Moreover, even if such projects are proposed in the future, they would be required to follow state and federal regulations. The Proposed Project would not contribute to cumulatively considerable impacts with respect to off-reservation groundwater quality.

Land Use and Population and Housing

Consistency with Off-Reservation Land Use Plans

The Proposed Project would not include any off-reservation land use or land use change. It would be consistent with existing off-reservation land uses and zoning designations. Other proposed off-reservation development projects in the vicinity of the Proposed Project would be required to adhere to the General Plan and applicable zoning requirements. The current Casino Resort and the immediate surrounding properties on the south side of Forty Mile Rd are all zoned Sports and Entertainment and the casino and all related parking including the Proposed Project are fully consistent with that voter approved zoning. Therefore, the Proposed Project would not result in any cumulatively considerable impact with respect to off-reservation land use.

Population Growth

As discussed above, the Proposed Project would not induce substantial population growth in the County. As discussed in **Section 3.8, Land Use and Population and Housing,** and **Section 3.12.1**, most of the new employees for the Proposed Project would likely be current residents of the County.

Additionally, the Gas Station Project is anticipated to introduce very few employees to the Project Site. These new employees would constitute a very small percentage of the overall projected population growth in the County as a whole. No other reasonably foreseeable future projects would meaningfully affect growth in the County, or the region. Any population growth attributable to the Proposed Project would not be cumulatively considerable. The Proposed Project would not result in a significant cumulative impact with respect to off-reservation population growth.

Housing Availability

As discussed in **Section 3.8, Hydrology and Water Quality**, and **Section 3.12.1** above, the County has sufficient housing units to accommodate new employees for the Proposed Project. Therefore, under cumulative conditions, the Proposed Project would not contribute to cumulative considerable impacts with respect to off-reservation housing availability.

Noise

The methodology used to determine off-reservation noise impacts from the Proposed Project under a cumulative scenario in the year 2025 in the 2010 FEIS is the same as that used to determine off-reservation noise impacts in opening year 2021 (**Section 3.9**, **Noise**). On-Site operational noise would be the same in year 2025 as in 2021 and would not exceed predicted 2025 ambient noise levels at nearby sensitive receptors. Therefore, cumulative impacts from operational noise generated on the Project Site would be less than significant.

As discussed in **Section 3.11**, **Transportation/Traffic**, the Proposed Project would increase traffic along study area roadways, and this would lead to increased ambient noise levels at nearby sensitive receptors in the opening year of 2021. However, as discussed in the "Transportation/Traffic" section above, the generated trips that would result from the Proposed Project are below the predicted trips generated under the 2025 Cumulative Conditions in the 2010 FEIS. Given that the total trip generated by the existing facilities and the Proposed Project would remain under the trip threshold evaluated for the 2010 FEIS, it is assumed that no additional off-reservation noise impacts would occur because of the Proposed Project.

Public Services, Utilities, and Service Systems

Fire Protection and Emergency Services

Under the Proposed Project, the Tribe would continue to contract with the Olivehurst Fire Department for emergency response services (**Section 3.10**, **Public Services and Utilities and Service Systems**). Additionally, primary first responders to all emergency medical incidents at the Resort would be from the on-site EMTs and security personnel, which would reduce the demand on off-reservation emergency medical service providers. As stated in **Section 3.10**, **Public Services and Utilities and Service System**, implementation of the Proposed Project would not result in the need for the construction or renovation of governmental facilities (the action of which could adversely affect the environment). The Proposed Project would not contribute to cumulatively considerable impacts on fire protection and emergency services.

Law Enforcement and Criminal Justice Facilities

Under the Proposed Project, the Tribe would continue to compensate County law enforcement service providers for the demands created by the Proposed Project. Because the Proposed Project is not anticipated to significantly increase patronage at the Resort or increase long-term stays at the Project

Site, no increase in the use of criminal justice facilities is anticipated. As stated in **Section 3.10**, **Public Services and Utilities and Service System**, implementation of the Proposed Project would not result in the need for the construction or renovation of governmental facilities (the action of which could adversely affect the environment). The Yuba County Sheriff's Department and CHP that is contracted by the Tribe, would continue to provide law enforcement services to the Project Site. The Proposed Project would not contribute to cumulatively considerable impacts on law enforcement and criminal justice facilities.

Public School Facilities

As a result of the current population and employment statistics for Yuba County, no additional people would be required or anticipated to move to the County to fill the jobs generated by the Proposed Project. Because the Proposed Project would not increase the current County population, no increase in demands for off-reservation public school services would be anticipated. As stated in **Section 3.10**, **Public Services and Utilities and Service System**, implementation of the Proposed Project would not result in the need for the construction or renovation of off-reservation public schools (the action of which could adversely affect the environment). The Proposed Project would not contribute to cumulatively considerable impacts on existing off-reservation public schools.

Public Water Facilities

As discussed in **Sections 2.3** and **3.10**, **Public Services and Utilities and Service System,** the Proposed Project would not require service from any off-reservation public water facility. Therefore, the Proposed Project would not contribute to a cumulatively considerable impact on any off-reservation public water facility.

Public Wastewater Treatment

As discussed in **Sections 2.3** and **3.10**, the Tribe operates its own WWTP, which is located on trust land adjacent to the Resort. The existing WWTP is sufficiently sized to serve the Proposed Project and would continue to serve the Resort. As stated in **Section 3.10**, **Public Services and Utilities and Service System,** implementation of the Proposed Project would not require modification of the WWTP to accommodate for the treatment of additional water or wastewater because of the Proposed Project. Therefore, the Proposed Project would not contribute to a cumulatively considerable impact on any off-reservation public wastewater treatment facility.

Stormwater Drainage Facilities

Under the Proposed Project, existing drainage patterns would be minimally affected as the Proposed Project would be constructed over existing impervious surfaces, and therefore would not increase surface water flows above the drainage capacity. As stated in **Section 3.10**, **Public Services and Utilities and Service System,** implementation of the Proposed Project would result in nearly the same stormwater generation rate as under existing conditions and would not require the need for the construction or renovation of stormwater facilities (the action of which could adversely affect the environment). Therefore, the Proposed Project would not contribute to a cumulatively considerable impact on any off-reservation stormwater facilities.

Solid Waste Disposal

When considered cumulatively with waste from other past, current, and probable projects, the amount of waste from the Proposed Project would not substantially decrease the life expectancy of the Recology

Ostrom Road Landfill (**Section 3.10**). The Proposed Project would not contribute to a cumulatively considerable impact with respect to solid waste disposal.

Electrical Distribution Facilities

Under the Proposed Project, the Proposed Project would increase peak electrical energy demand for the Resort and auxiliary support and commercial facilities from 3 megawatts (MW) to 4.4 MW (a 1.4 MW increase). However, existing electrical infrastructure along Forty Mile Rd is anticipated to be sufficient to serve the Proposed Project. As stated in **Section 3.10**, **Public Services and Utilities and Service System,** implementation of the Proposed Project would not result in the need for the construction or renovation of electrical distribution facilities (the action of which could adversely affect the environment). Therefore, the Proposed Project would not contribute to a cumulatively considerable impact on any off-reservation electrical distribution facilities.

Transportation/Traffic

The traffic memorandum prepared for the Proposed Project (**Appendix D**) was performed in accordance with the state of the traffic engineering practice and in a manner that is intended to allow for a comparison to the traffic study prepared in support of the 2010 FEIS. Since approval of the FEIS in 2011, the existing Hard Rock Hotel & Casino was constructed in a smaller footprint than was analyzed as Alternative A in the FEIS. **Table 3.12-4** provides a comparison of the existing Hard Rock Hotel & Casino trips and shows that adding the Proposed Project trips to the existing facility trips would remain under the 2010 FEIS trip threshold.

TABLE 3.12-4. TRIP GENERATION COMPARISON

Source	Weekday PM Peak-Hour			Weekend PM Peak-Hour		
	Total Trips	In Trips	Out Trips	Total Trips	In Trips	Out Trips
EIS, Alternative (A): Hotel & Casino	854	453	401	1,085	504	581
Existing Hard Rock Hotel & Casino	548	313	235	740	413	327
Proposed Project	96	87	9	96	87	9
Subtotal	644	400	244	836	500	336
Delta	**-210**	**-53**	**-157**	**-249**	**-4**	**-245**

Source: Kimley-Horn, 2021 (**Appendix D**).

The cumulative analysis of transportation impacts included in the 2010 FEIS found that operation of the Hard Rock Hotel & Casino (Alternative A) would contribute to unacceptable levels of service at several study area intersections and roadway segments under 2025 Cumulative Conditions. Accordingly, mitigation measures were recommended for the impacted roadway segments and intersections, which would reduce the impacts to a less-than-significant level. Given that the total trip generated by the existing facilities and the Proposed Project would remain under the trip threshold evaluated for the 2010 FEIS, it is assumed that no additional off-reservation transportation impacts would occur because of the Proposed Project.

Conclusion

Overall, with the implementation of recommended mitigation measures described in this Draft TEIR, the Proposed Project would not contribute to a cumulatively considerable impact on the off-reservation environment.

SECTION 4.0

ALTERNATIVES

SECTION 4.0

ALTERNATIVES

4.1 INTRODUCTION

The purpose of this section is to describe reasonable alternatives to the Proposed Project and to evaluate the off-reservation environmental impacts of each alternative, in comparison to the Proposed Project. This discussion evaluates the capacity of selected alternatives to accomplish the basic objectives of the Proposed Project and provides a comparison of the potential environmental impacts expected to occur. In accordance with the requirements of the Secretarial Procedures that a Tribal Environmental Impact Report (TEIR) include an analysis of the environmental impacts of such alternatives, this section analyzes one alternative to the Proposed Project, a No Action Alternative.

To provide the appropriate context for this alternatives analysis, the project objectives are summarized in **Section 2.2**. Alternatives evaluated in this Draft TEIR are discussed in **Section 4.2**. Alternatives initially considered but eliminated from further consideration due to their inability to achieve the Proposed Project's objectives and/or to reduce environmental impacts associated with the Proposed Project are described in **Section 4.3**. The comparative impacts of the No Action Alternative on the off-reservation environment is summarized in **Section 4.4**.

4.2 ALTERNATIVES EVALUATED IN THIS DRAFT TEIR

4.2.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the Resort would not be expanded or substantially modified and would continue to exist in its current form and capacity. Under the No Action Alternative, the areas proposed for expansion under the Proposed Project would not be developed and would continue to operate mainly as surface parking areas for the existing Resort. The No Action Alternative would eliminate any short-term impacts related to construction activities that would occur as a result of the Proposed Project. Impacts associated with noise, traffic, and greenhouse gas (GHG) emissions from construction activities would be avoided. Additionally, because ground-disturbing activities would not occur, potential impacts to geological and biological resources resulting from construction would also be avoided. Thus, the No Action Alternative would not have the potential to affect the off-reservation environment.

However, the Proposed Project's objectives listed in **Section 2.2** would not be met under the No Action Alternative. The No Action Alternative would not succeed in providing adequate entertainment facilities to meet current demand; providing adequate back-of-house and warehouse space to improve operational efficiency; improving the Tribe's ability to remain competitive in the northern California casino market; or enabling the Tribe to develop and maintain a sustainable, long-term economic base for its government and for future generations.

4.3 ALTERNATIVES ELIMINATED FROM CONSIDERATION

In addition to the No Action Alternative evaluated in **Section 4.2**, the following alternative to the Proposed Project was considered for its potential to reduce the environmental impacts of the Proposed

Project. This alternative was preliminarily considered but eventually eliminated from full comparative analysis within the Draft TEIR because it was determined to be unable to meet the objectives of the Proposed Project and not likely to reduce significant environmental impacts of the Proposed Project. The alternative considered, but rejected, is briefly discussed below.

4.3.1 REDUCED INTENSITY ALTERNATIVE

The Reduced Intensity Alternative (RIA) would expand the amenities at the Resort, although to a lesser extent than the Proposed Project. Under this alternative, the square footage of the back of house (BOH) and warehouse and the live music venue would be smaller than the Proposed Project, and would accommodate for approximately 47,500 total sf compared to 95,000 sf under the Proposed Project, reducing the proposed expansion area by half. Refer to **Figure 2-1** in **Section 2.0**, **Project Description**, for details of the site plan for the Proposed Project. Although the development of the RIA would occupy the same width as the Proposed Project, the overall length of the music venue, which extends in the northerly direction, would be cut by half. The RIA would be constructed as a continuation of the existing Resort and would be consistent in color and height as proposed under the Proposed Project, however would possess half of the footprint of the Proposed Project, thereby reducing the overall grading area within the existing parking lot. Additionally, the overall footprint of the BOH would be reduced to 10,000 sf but would occupy a similar development layout as the Proposed Project as illustrated in **Figure 2-1**, by scaling down the footprint by a factor of one-half. Overall, the RIA would provide similar visual impacts to existing viewsheds as discussed in **Section 3.2.2**. The water supply demand and the wastewater treatment and disposal generation rate for the RIA would be decreased as compared to the Proposed Project. Landscaping would be developed to be consistent with the current landscaping of the Project Site.

The RIA would offer a facility that accommodates half the number of music venue attendees and a limited office and storage space for employees. Therefore, the RIA could have marginally fewer impacts on the off-reservation environment than the Proposed Project. However, many of the environmental impacts of the RIA would be similar to those of the Proposed Project. While the construction under the RIA would increase noise levels, traffic volume, and GHG emissions similar to the Proposed Project, the amount of construction would be less under the Proposed Project, reducing impacts and energy use during construction. Furthermore, the RIA would create additional operational impacts similar to that under the Proposed Project, however operational impacts would be reduced because the new development would only accommodate half the number of attendees and provide limited office space by reducing the overall size of the development compared to the Project Site. Additionally, as described in **Section 3.12**, **Indirect and Cumulative Off-Reservation Environmental Impacts**, cumulative projects in the vicinity of the Project Site would have a similar cumulative impact on the off-reservation environment under the RIA scenario as under the Proposed Project.

In addition, the RIA would not meet the Proposed Project's objectives to the same extent as the Proposed Project, as it would provide fewer economic benefits and would not provide the adequate amount of development needed to improve operational efficiency. The RIA would provide less opportunity for seating, as well as office and warehouse space needed to meet the existing demand for efficient operation. This would reduce the ability of the RIA to meet the objective of maintaining the Resort's competitiveness in the northern California market, which is essential to the Resort's continued economic viability. The reduced number of seating in the live music venue would also limit the ability of the Tribe to provide a competitive edge in the regional live entertainment industry. This alternative would not meet the Modified Project's objectives.

4.4 COMPARISON OF ALTERNATIVES

This section identifies whether the alternatives described above would have greater, lesser, or similar impacts for each impact area when compared with the Proposed Project. All impacts identified under the Proposed Project would be less than significant after mitigation. Therefore "greater" and "lesser" impacts are generally referring to varying degrees of impacts below established significance thresholds. In summary, the environmentally superior alternative is the alternative that would cause the least impact to the biological and physical environment.

As discussed above, under the No Action Alternative, the areas proposed for expansion under the Proposed Project would not be developed and would continue to operate mainly as surface parking areas for the existing Resort. Therefore, implementation of the No Action Alternative would result in fewer short term environmental impacts than would occur under the Proposed Project. Specifically, temporary construction impacts would be avoided, including increased noise, traffic, and air quality emissions. In conclusion, the No Impact Alternative would have the lowest level of impacts, and, as a result, would be considered the environmentally superior alternative.

Generally, for the purposes of this Draft TEIR, the environmentally superior alternative is the alternative that would cause the least impact on the off-reservation natural and physical environment. For this project, the environmentally superior alternative (without consideration of whether it meets the project objectives) would be the No Action Alternative, as it would result in the avoidance of the environmental effects that would occur under the Proposed Project. However, the No Action Alternative would not achieve the project objectives listed in **Section 2.2**.

SECTION 5.0

REPORT AUTHORS

SECTION 5.0

REPORT AUTHORS

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SECTION 6.0

BIBLIOGRAPHY

SECTION 6.0

BIBLIOGRAPHY

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APPENDICES

APPENDIX A

OFF-RESERVATION ENVIRONMENTAL IMPACT ANALYSIS CHECKLIST

APPENDIX B

Off-Reservation Environmental Impact Analysis Checklist

I. Aesthetics

Would the project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less than Significant Impact*	*No Impact*
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☐
b) Substantially damage off-reservation scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☐
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?	☐	☐	☐	☐

II. Agricultural and Forest Resources

Would the project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less than Significant Impact*	*No Impact*
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?	☐	☐	☐	☐

III. Air Quality

Would the project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less than Significant Impact*	*No Impact*
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☐
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which	☐	☐	☐	☐

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
exceed quantitative thresholds for ozone precursors)?				
d) Expose off-reservation sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☐
e) Create objectionable odors affecting a substantial number of people off-reservation?	☐	☐	☐	☐

IV. Biological Resources

Would the 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?	☐	☐	☐	☐
b) Have a substantial adverse effect on any off-reservation riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☐
c) Have a substantial adverse effect on federally protected off-reservation wetlands as defined by Section 404 of the Clean Water Act?	☐	☐	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☐
e) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☐

V. Cultural Resources

Would the 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 archeological resource?	☐	☐	☐	☐
b) Directly or indirectly destroy a unique off-reservation paleontological resource or site or unique off-reservation geologic feature?	☐	☐	☐	☐
c) Disturb any off-reservation human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☐

VI. Geology and Soils

Would the 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.	☐	☐	☐	☐
ii) Strong seismic ground shaking?	☐	☐	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☐
iv) Landslides?	☐	☐	☐	☐
b) Result in substantial off-reservation soil erosion or the loss of topsoil?	☐	☐	☐	☐

VII. Hazards and Hazardous Materials

Would the 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?	☐	☐	☐	☐

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?	☐	☐	☐	☐
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?	☐	☐	☐	☐
d)	Expose off-reservation people or structures to a significant risk of loss, injury or death involving wildland fires.	☐	☐	☐	☐

VIII. Water Resources

Would the 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?	☐	☐	☐	☐
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 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 of siltation off-site?	☐	☐	☐	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding off-site?	☐	☐	☐	☐
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?	☐	☐	☐	☐
f)	Place within a 100-year flood hazard area structures, which would impede or redirect off-reservation flood flows?	☐	☐	☐	☐
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?	☐	☐	☐	☐

IX. Land Use

Would the project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less than Significant Impact*	*No Impact*
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?	☐	☐	☐	☐
b) Conflict with any applicable habitat conservation plan or natural communities conservation plan covering off-reservation lands?	☐	☐	☐	☐

X. Mineral Resources

Would the project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less than Significant Impact*	*No Impact*
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?	☐	☐	☐	☐
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?	☐	☐	☐	☐

XI. Noise

Would the project result in:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less than Significant Impact*	*No Impact*
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?	☐	☐	☐	☐
b) Exposure of off-reservation persons to excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☐
c) A substantial permanent increase in ambient noise levels in the off-reservation vicinity of the project?	☐	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the off-reservation vicinity of the project?	☐	☐	☐	☐

XII. Population and Housing

Would the project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less than Significant Impact*	*No Impact*
a) Induce substantial off-reservation population growth?	☐	☐	☐	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere off-reservation?	☐	☐	☐	☐

XIII. Public Services

Would the 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, 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?	☐	☐	☐	☐
Police protection?	☐	☐	☐	☐
Schools?	☐	☐	☐	☐
Parks?	☐	☐	☐	☐
Other public facilities?	☐	☐	☐	☐

XIV. Recreation

Would the project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less than Significant Impact*	*No Impact*
a) 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?	☐	☐	☐	☐

XV. Transportation / Traffic

Would the 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)?	☐	☐	☐	☐
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?	☐	☐	☐	☐
c) Substantially increase hazards to an off-reservation design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☐
d) Result in inadequate emergency access for off-reservation responders?	☐	☐	☐	☐

XVI. Utilities and Service Systems

Would the 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?	☐	☐	☐	☐
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?	☐	☐	☐	☐
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?	☐	☐	☐	☐
d) Result in a determination by an off-reservation wastewater treatment provider (if applicable), which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☐

XVII. Cumulative Effects

Would the project:	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less than Significant Impact*	*No Impact*
a) Have impacts that are individually limited, but cumulatively considerable off-reservation? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past, current, or probable future projects.	☐	☐	☐	☐

APPENDIX B

NOTICE OF PREPARATION

NOTICE OF PREPARATION
OF A TRIBAL ENVIRONMENTAL IMPACT REPORT FOR THE
FIRE MOUNTAIN CASINO MUSIC VENUE PROJECT

DATE: December 17, 2020

TO: State Clearinghouse
County of Yuba
Interested Parties

LEAD AGENCY: Estom Yumeka Maidu Tribe
of the Enterprise Rancheria
2133 Monte Vista Avenue
Oroville, CA 95966

PROJECT TITLE: **Fire Mountain Casino Music Venue Project**

COMMENT PERIOD: December 17, 2020 to January 16, 2021

The Estom Yumeka Maidu Tribe of the Enterprise Rancheria (the "Tribe") owns the Hard Rock Hotel and Casino Sacramento at Fire Mountain (the "Resort") situated on federally-owned land that is held in trust for the Tribe and located at 3317 Forty Mile Road, Wheatland, CA 95692 (the "Trust Land").

The Resort is operated pursuant to the Secretarial Procedures for the Tribe (the "Procedures"). The Procedures require that, before beginning construction of any new "Project" (as defined in the Procedures), the Tribe cause to be prepared a tribal environmental impact report (a "TEIR") analyzing the potentially significant off-reservation environmental impacts of that Project. That environmental analysis is to be conducted pursuant to the process described in the Procedures.

The Tribe has authorized the preparation of a TEIR for a potential project on the Trust Land that would add to the Resort an indoor live music venue, back-of-house warehouse and office space, and the other components described in this Notice ("Proposed Project"). The Proposed Project is a "Project" under the Procedures, and therefore requires a TEIR.

This Notice is given pursuant to the Procedures to inform interested parties that the Tribe is beginning the TEIR process and that, as required by that process, a draft of the TEIR for the Proposed Project will be prepared. That draft TEIR will address each of the items listed in the Off-Reservation Impact Checklist, as required by the Procedures.

The Procedures provide that you may, at any time within thirty (30) days after the date on which this Notice is received by the State Clearinghouse in the State Office of Planning and Research (the "State Clearinghouse") and the County of Yuba (the "County"), provide comments to the Tribe. The Tribe requests that you identify in your comments any potentially significant off-reservation environmental

impacts, and any reasonable mitigation measures to address those impacts, that you believe should be considered in the draft TEIR for the Proposed Project.

Comments should be in writing and sent by email or mail to the following address, and will be considered timely if postmarked no later than January 16, 2021. Please send your comments to:

Enterprise Rancheria
c/o Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95811
admin@enterpriseteir.com

All comments postmarked by January 13, 2021 will be reviewed and considered by the Tribe.
A project description, location map and site plan for the Proposed Project, as well as a brief description of the environmental areas in which off-reservation impacts attributable to the Proposed Project may be probable, are included in the following pages of this Notice. The description of probable off-reservation environmental impacts of the Proposed Project in this Notice has been prepared before the analysis required to complete the TEIR has been completed. Accordingly, the description of probable impacts in this Notice is subject to the results of the analysis in the TEIR, and the potentially significant off-reservation impacts identified in the TEIR may differ from those described in this Notice.

A copy of this Notice is available online at *www.enterpriseteir.com*. A copy of the draft TEIR will be posted on that website when the draft TEIR is completed. The draft TEIR will include the analysis of potentially significant direct and indirect off-reservation environmental impacts attributable to the Proposed Project, and mitigation measures to address such impacts as required by the Procedures. The draft TEIR will also describe a range of reasonable alternatives to the Proposed Project that could avoid or minimize potentially significant adverse impacts, and evaluate the comparative merits of the alternatives.

The draft TEIR, when completed, will be filed with the State Clearinghouse, the County, the State Gaming Agency, and the California Department of Justice. After that filing, there will be a 45-day period during which interested persons and agencies may submit comments regarding the draft TEIR. The draft TEIR will include provisions describing how any such comments are to be submitted to the Tribe.

Any comments regarding the draft TEIR received by the Tribe during the 45-day comment period will be considered and evaluated in connection with the preparation of a final draft of the TEIR. The final TEIR will be posted on the website mentioned above.

INFORMATION REGARDING PROPOSED PROJECT

PROJECT TITLE

Fire Mountain Casino Music Venue Project

LOCATION

The Proposed Project would be situated on the Trust Land on which the current Resort is located. The Resort is located in the southern area of Yuba County, southeast of Marysville/Olivehurst at 3317 Forty Mile Road, Wheatland, CA 95692. **Figure 1** attached to this Notice shows the location of the Proposed Project.

Regional access to the Project Site is provided by California State Route 65 and California State Route 70, which connect Interstate 5, CA State Route 99, and Interstate 80 to the vicinity. The Project Site is accessible via existing driveways on Forty Mile Road.

PROJECT DESCRIPTION

The Resort opened in October of 2019 and was the subject of an exhaustive Environmental Impact Statement (EIS) approved by federal agencies in 2011. The Resort currently includes up to 1,600 gaming devices, table games, five dining locations, a 170-room hotel, other entertainment amenities, and associated parking,

The Proposed Project includes the construction of an indoor live music amphitheater consisting of up to approximately 75,000 square feet (sf), and the expansion of the Resort's back of house space (BOH) by up to approximately 20,000 sf, for a total of up to approximately 95,000 sf of new building space at the northeast (back) side of the existing Resort building. The proposed live music amphitheater will be used for entertainment on a regular basis and not just for special events. The new BOH area would be used for expanded offices and warehouse facilities.

The Proposed Project would be built on existing paved areas. The height of the new facilities would be generally consistent with or similar to the height of the existing Resort buildings, and the Proposed Project would feature the same architectural style as the existing buildings.

Water supply and wastewater treatment for the Proposed Project would be provided by the Tribe's existing on-site systems.

PROBABLE OFF-RESERVATION ENVIRONMENTAL EFFECTS

The following sections of this Notice discuss, based on current knowledge without the benefit of the environmental analysis that will be performed as part of the TEIR process, areas in which adverse off-reservation environmental impacts attributable to the Proposed Project may be probable. As noted above, each of these potential impacts will be analyzed in the TEIR. The TEIR will also analyze the extent to which mitigation measures (which the TEIR will describe) would minimize or eliminate potentially significant adverse off-reservation environmental impacts of the Proposed Project. The TEIR will identify any anticipated potentially significant off-reservation adverse environmental impacts of the Proposed Project that cannot be mitigated.

The TEIR will include analysis of the Proposed Project's potentially significant off-reservation

environmental impacts associated with the following resource areas (each of which is required by the Off-Reservation Impact Checklist):

AESTHETICS

The Proposed Project may change the visual character of the area. Although the height of the proposed facilities is not anticipated to substantially exceed the height of the existing Resort buildings, the expanded size of the Resort could visually impact certain off-reservation properties. The TEIR will assess the impacts of the Proposed Project on the existing visual character and quality of the off-reservation area, including light and glare effects and the impacts of the Proposed Project on any off-reservation scenic vistas or resources. The TEIR will include architectural renderings of the proposed structures. The TEIR will identify mitigation measures to address any potentially significant impacts.

AGRICULTURAL AND FOREST RESOURCES

Agricultural resources include off-reservation areas used to produce, grow, and harvest crops and farmed products. The Proposed Project will be constructed on an area that has been previously paved and developed. No probable off-reservation impacts to agricultural resources would occur.

AIR QUALITY AND GREENHOUSE GASES

The Proposed Project would generate short-term emissions, including dust, during the construction phase and long-term emissions from vehicle traffic which could contribute to existing or projected air quality issues. Additionally, the Proposed Project would result in short-term emissions of greenhouse gas (GHG) associated with construction and long-term GHG emissions primarily associated with vehicle traffic and energy usage, that could contribute to cumulative effects associated with climate change. The TEIR will assess the off-reservation impacts of the Proposed Project associated with air quality and greenhouse gas emissions, including consistency with applicable air quality standards and plans, and impacts on sensitive receptors from pollutant emissions and odors. The TEIR will identify mitigation measures to address any potentially significant impacts.

BIOLOGICAL RESOURCES

Construction activities for the Proposed Project would be on areas of the Trust Land that have already been disturbed with prior development, much of which is currently paved and being used for parking. Accordingly, impacts to biological resources would likely be minimal. The TEIR will assess the off-reservation impacts of the Proposed Project on biological resources, including habitat, wetlands, fish and wildlife migration, species preservation, natural community preservation and compliance with applicable plans, standards, laws, and regulations relating thereto. The TEIR will identify mitigation measures to address any potentially significant impacts, if necessary.

CULTURAL RESOURCES

Construction activity for the Proposed Project would be confined to the Trust Land (which is already developed and was previously surveyed for cultural resources), and it is therefore not anticipated that any off-reservation cultural resources would be impacted by the Proposed Project. The TEIR will assess the off-reservation impacts of the Proposed Project on cultural resources, and identify mitigation measures to address any potentially significant impacts. Because no off-reservation areas will be disturbed by the Proposed Project, the potential for impacts to off-reservation cultural resources is low.

Geology and Soils

The Proposed Project would be constructed on the Trust Land and will meet all applicable earthquake safety standards. It is therefore not anticipated that any people or structures would be subjected to adverse effects from earthquakes, ground shaking, seismic ground failure, landslides, or erosion as a result of the Proposed Project. The TEIR will assess the off-reservation impacts of the Proposed Project by virtue of earthquakes, ground shaking, seismic ground failure, landslides, or erosion, and identify mitigation measures to address any potentially significant impacts.

Hazards and Hazardous Materials

Hazardous materials are those that appear on a list of hazardous materials prepared by a federal, state, or local agency, or that possess characteristics defined as hazardous by such an agency. Certain hazardous materials would be used during construction and operation of the Proposed Project. The TEIR will assess off-reservation impacts associated with hazards and hazardous materials attributable to the Proposed Project. The TEIR will identify mitigation measures, if necessary, to address potentially significant off-reservation impacts associated with hazards and hazardous materials.

Water Resources

The Proposed Project has the potential to result in increased water use and wastewater generation. Construction of the Proposed Project may increase the potential for erosion and direct or indirect discharge of sediment and other materials into off-reservation drainages near the project site. The TEIR will assess off-reservation impacts of the Proposed Project on water resources, including compliance with applicable plans, standards, laws, and regulations relating to water resources, off-reservation groundwater supplies and quality, alteration of off-reservation drainage patterns, and off-reservation flood hazards. The TEIR will identify mitigation measures, if necessary, to address potentially significant off-reservation impacts to water resources.

Land Use

The Proposed Project would not introduce any new or alter any existing off-reservation land use in the area. The Proposed Project would be constructed on the Trust Land, and it is therefore not anticipated that any off-reservation land use plan, policy, habitat conservation plan, or natural community conservation plan would apply to the Proposed Project. The TEIR will assess the Proposed Project's off-reservation impact on surrounding land uses and any applicable off-reservation land use, habitat conservation and natural community preservation plans, and will identify mitigation measures to address any potentially significant impacts.

Mineral Resources

Mineral resources are defined as the concentration or occurrence of natural, solid, inorganic or fossilized organic material of such grade or quality that it has reasonable prospects for economic extraction. The Proposed Project would be constructed entirely on Trust Land, and would not use any off-reservation mineral resources. Accordingly, the Proposed Project is unlikely to impact off-reservation mineral resources.

Noise

Noise is defined as unwanted sound. Construction and operation of the Proposed Project could increase off-reservation noise levels and vibrations in limited areas near the Proposed Project. The TEIR will assess the Proposed Project's off-reservation noise and vibration impacts, and will identify mitigation

measures to address any potentially significant impacts.

Population and Housing

The Proposed Project would be constructed on Trust land, and would not displace any existing housing. The Proposed Project would provide new employment opportunities; however, it is likely to have a less than significant impact on off-reservation housing because the majority of the new employees would likely already reside within commuting distance of the Proposed Project. The TEIR will assess the Proposed Project's impact on off-reservation population growth, and will identify mitigation measures to address any potentially significant impacts.

Public Services

Public services include fire protection, emergency medical services, and law enforcement. The TEIR will assess whether the Proposed Project would generate the need to construct or alter existing fire, medical, police, or other public facilities. The TEIR will identify mitigation measures, if necessary, to address potentially significant off-reservation impacts to public services.

Recreation

Recreation areas include public parks and other public facilities. The Proposed Project will be built on-reservation in an area previously paved and developed. Therefore, the Proposed Project would not impact off-reservation recreation areas.

Transportation and Traffic

The Proposed Project would generate additional vehicular use of certain public roads, contributing to increased traffic volumes and possible deterioration of levels of service. The TEIR will assess the Proposed Project's impacts on city, county, and state roads (during both construction and operation of the Proposed Project), including vehicle trips attributable to the Proposed Project, and the impacts of the Proposed Project on off-reservation road and intersection capacities, levels of service, existing hazardous conditions and emergency vehicle response times. The TEIR will identify mitigation measures to address any potentially significant impacts.

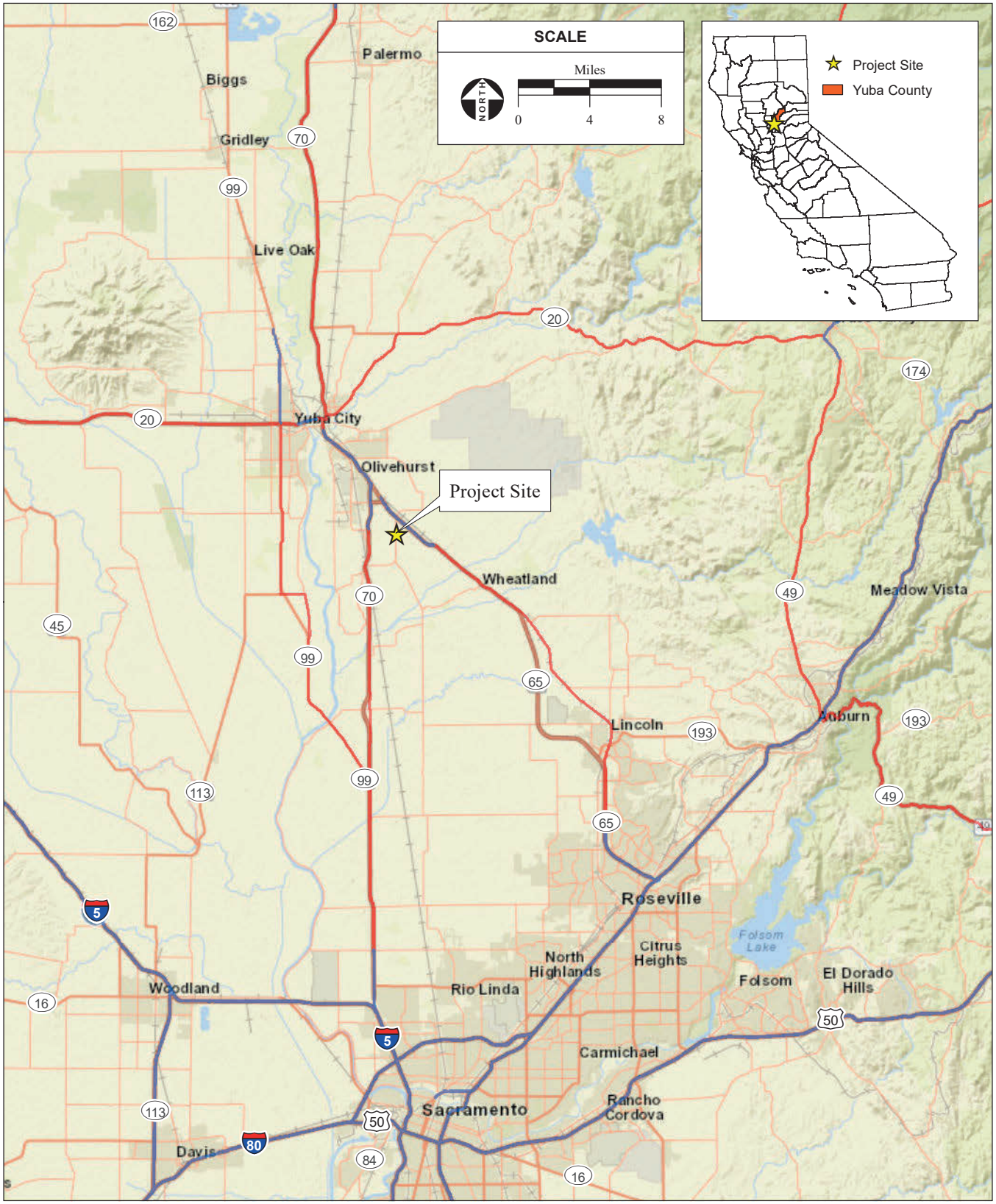
Utilities and Service Systems

Utilities and service systems include water supply systems, wastewater, solid waste, and energy services. The existing water supply and wastewater treatment systems on-site would serve the Proposed Project. The Proposed Project would not require water treatment or wastewater treatment by any off-reservation entity. Storm water drainage for the Proposed Project would be similar to the drainage that currently exists for the impervious surfaces on which the Proposed Project would be built, and that drainage would be discharged into the Tribe's existing drainage system. The TEIR will, possibly as part of the water resources analysis described above, assess the Proposed Project's impacts on off-reservation water and wastewater treatment and storm water drainage facilities, and will identify mitigation measures to address any potentially significant impacts.

Cumulative Impacts

The TEIR will analyze whether, with respect to each of the items or categories listed in the Off-Reservation Impact Checklist, the Proposed Project will cause any "cumulatively considerable" off-reservation impacts. Under the Secretarial Procedures, "cumulatively considerable" off-reservation

environmental impacts of the Proposed Project will be those that are considerable when viewed in connection with past, current, or probable future projects.



SOURCE: ESRI, 2020; AES, 11/18/2020

Figure 1
Regional Location

APPENDIX C

NOTICE OF PREPARATION COMMENT LETTERS

DEPARTMENT OF TRANSPORTATION
District 3
703 B Street
MARYSVILLE, CA 95901–5556
PHONE (530) 741-4233
FAX (530) 741-4245
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

January 15, 2021

GTS# 03-YUB-2020-00088
YUB-65 PM 6.384
SCH# 2020120445

Mr. Peter Bontadelli
Estom Yumeka Maidu Tribe of the Enterprise Rancheria
Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95811

Re: Fire Mountain Casino Music Venue Project

Dear Mr. Bontadelli:

Thank you for including the California Department of Transportation (Caltrans) in the review process for the project referenced above. We review this local development for impacts to the State Highway System (SHS) in keeping with our mission, vision and goals for sustainability, livability, economy, and safety and health while enhancing California's economy and livability.

The proposed Fire Mountain Casino Music Venue (Project) includes the construction of an indoor live music amphitheater consisting of up to approximately 75,000 square feet (sf), and the expansion of the Resort's back of house space (BOH) by up to approximately 20,000 sf, for a total of up to approximately 95,000 sf of new building space at the northeast (back) side of the existing Resort building. The proposed live music amphitheater will be used for entertainment on a regular basis and not just for special events. The new BOH area would be used for expanded offices and warehouse facilities. The Project is located in southern Yuba County, southeast of Marysville/Olivehurst, at 3317 Forty Mile Road in Wheatland. The following comments are based the Notice of Preparation (NOP) of a draft Tribal Environmental Impact Report (TEIR) package received.

Highway Operations

The draft TEIR should include a comprehensive transportation analysis, including analysis of Vehicle Miles Travelled (VMT), and evaluate operations at the major

access points to/from the proposed project, mainly at State Route (SR) 65 and SR 70. This analysis should include the following locations in the opening year and the cumulative year, A.M., P.M., and event peaks:

- SR 65/Forty Mile Rd Interchange (IC) - with and without the extension of Plumas Lake IC, east of SR 70 (Phase 2).
- SR 65 and SR 70 ICs with McGowan Parkway - with and without the extension of Plumas Lake IC Phase 2.
- SR 65 signals at Main St and 1st Street in Wheatland with and without Plumas Lake IC Phase 2.

The analysis should include basic information such as proposed number of seats, the probability of coinciding events with the amphitheater, and event traffic control plans. Please also include a site plan indicating any existing and proposed driveways, circulation patterns, and signal warrants at these locations.

We would appreciate the opportunity to review the scope of work for the transportation analysis report to minimize the potential of additional analysis after the environmental document has been circulated.

Travel Forecasting and Modeling

This project could have a significant impact on the SHS. Please provide trip generation from the project, VMT analysis according to Senate Bill (SB) 743 guidelines, and VMT mitigation measures if it is determined that the VMT will be significant.

Encroachment Permit

Any project along or within the State's Right of Way (ROW) requires an encroachment permit issued by Caltrans. To apply, a completed encroachment permit application, environmental documentation, and five sets of plans clearly indicating State ROW must be submitted to:

Hikmat Bsaibess
California Department of Transportation
District 3, Office of Permits
703 B Street
Marysville, CA 95901

Please provide our office with copies of any further actions regarding this project. We would appreciate the opportunity to review and comment on any changes related to this development.

If you have any question regarding these comments or require additional information, please contact Deborah McKee, Intergovernmental Review Coordinator for Yuba County, by phone (530) 741-5455 or via email at deborah.mckee@dot.ca.gov.

Sincerely,

David J. Smith

DAVID J. SMITH, Branch Chief
Office of Transportation Planning
Regional Planning Branch—North

NATIVE AMERICAN HERITAGE COMMISSION

NEC
JAN - 5,2021

December 29, 2020

Pete Bontadelli
Estom Yumeka Maidu Tribe of the Enterprise Rancheria
2133 Monte Vista Avenue
Oroville, CA 95966

Re: 2020120445, Fire Mountain Casino Music Venue Project, Yuba County

Dear Mr. Bontadelli:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
Marshall McKay
Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,



Nancy Gonzalez-Lopez
Cultural Resources Analyst

cc: State Clearinghouse



APPENDIX D

TRAFFIC MEMORANDUM

Kimley»Horn

Memorandum

To: Pete Bontadelli, Project Director
Analytical Environmental Services

From: MyThu Lam, E.I.T.
Matt Weir, P.E., T.E., PTOE, RSP_1

Re: ***Hard Rock Hotel & Casino Sacramento – Hard Rock Live***
Traffic Evaluation
Yuba County, California

Date: April 21, 2021

Per your request, we have prepared this traffic evaluation for the above referenced project.

Project Understanding

Kimley-Horn understands that a Hard Rock Live facility is proposed to be constructed as an addition to the existing Hard Rock Hotel & Casino Sacramento in Yuba County, California (see **Exhibit 1**). The Hard Rock Live project consists of an approximately 95,000-square foot building expansion at the northeast side of the existing building, with 75,000-square feet allocated to an indoor entertainment venue and 20,000-square feet allocated to "back of house" space. The indoor entertainment venue includes 3,000 seats and the back of house space includes expanded offices and warehouse facilities. For the purposes of this evaluation and in a manner consistent with prior studies, the number of seats in the entertainment venue was considered the independent variable. Accordingly, the Hard Rock Live project was analyzed as a 3,000-seat entertainment venue (the "Project" or "Proposed Project"). Access to the Proposed Project will be from Forty Mile Road via the two existing, full-access driveways and an additional full-access driveway associated with the planned gas station, for a total of three (3) access points (see **Exhibit 2**). Although not a part of the Proposed Project, a gas station with a convenience store/smoke shop is also being developed on the Hard Rock Hotel & Casino Sacramento site and is assumed to be operational at the time the Proposed Project is completed.

The purpose of this evaluation is to identify potential off-reservation traffic impacts that may be attributable to the Proposed Project. This traffic evaluation was performed in accordance with the state of the traffic engineering practice and in a manner that is intended to allow for a comparison to a traffic study[1] prepared in support of the project's Environmental Impact Statement (EIS).

Study Facilities and Analysis Methodology

Study Facilities

Access to the project site is provided via three (3) full-access driveways along Forty Mile Road, two of which are existing and the other will be constructed as part of the aforementioned gas station project. **Exhibit 3** illustrates the study facilities, existing traffic control, and existing lane configurations. The following intersections are included in this evaluation:

1. Forty Mile Road @ Southbound State Route 65 (SR-65) Ramps
2. Forty Mile Road @ Hard Rock Driveway (North)
3. Forty Mile Road @ Hard Rock Driveway (South)
4. Forty Mile Road @ Plumas Arboga Road

[1] *Enterprise Rancheria Casino-Hotel Traffic Impact Study,* AES, March 6, 2003.

5. Forty Mile Road @ NB SR-65 Ramps
6. McGowan Parkway @ SB SR-65 Ramps
7. McGowan Parkway @ NB SR-65 Ramps
8. McGowan Parkway @ SB SR-70 Ramps
9. McGowan Parkway @ NB SR-70 Ramps
10. SR-65 @ Main Street (Wheatland)
11. SR-65 @ First Street (Wheatland)
12. SR-65 @ South Beale Road
13. *Forty Mile Road @ Hard Rock/Gas Station Driveway (future)*

In addition, the following roadway segments were evaluated (weekend PM only):

1. Forty Mile Road, north of Hard Rock Hotel & Casino
2. Forty Mile Road, south of Hard Rock Hotel & Casino

Analysis Scenarios
This LOS analysis was conducted for the weekday (Tuesday - Thursday) and weekend (Friday or Saturday) PM peak-hours for the following scenarios:

A. Existing (2020) Conditions[+]
B. Opening Year (2021) Conditions[++]
C. Opening Year (2021) plus Proposed Project Conditions[+++]

[+] Established using a combination of on-the-ground traffic counts and Hard Rock Hotel & Casino patron data.
[++] Established by manually adding traffic and associated access modifications from known projects in the immediate project area to the Existing (2020) Conditions.
[+++] Trips associated with the Proposed Project manually added to the Opening Year Conditions.

Level of Service Analysis Criteria

Level of Service Definitions
Analysis of transportation facility significant environmental impacts is often based on the concept of Level of Service (LOS). The LOS of a facility is a quantitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual (HCM) 6th Edition*.

Intersection Analysis
The HCM includes procedures for analyzing both signalized and side-street stop controlled (SSSC) intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach or movement. **Table 1** presents intersection LOS definitions as defined in the HCM.

Roadway Segment Analysis
The HCM also includes procedures for analyzing multi-lane roadway segments. Levels of Service for these facilities are determined based on the density of the traffic stream. The LOS criteria per the Yuba County guidelines[2] for multi-lane segments are shown in **Table 2**.

[2] *Yuba County 2030 General Plan,* Yuba County, June 7, 2011.

Table 1 – Intersection Level of Service Criteria

Level of Service (LOS)	Signalized	Un-Signalized
	Average Control Delay (sec/veh)	Average Control Delay* (sec/veh)
A	≤ 10	≤ 10
B	> 10 – 20	> 10 – 15
C	> 20 – 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50

Source: Highway Capacity Manual, 6th Edition
* Applied to the worst lane/lane group(s) for SSSC

Table 2 – Roadway Segment Level of Service Criteria

Roadway Classification	Maximum Peak Hour Volume				
	LOS A	LOS B	LOS C	LOS D	LOS E
Four-Lane Urban Arterial, Undivided	-	-	1,750	2,740	2,890

Source: Yuba County 2030 General Plan

Existing (2020) Conditions

Existing (2020) Conditions' traffic volumes were established by using a combination of Hard Rock Hotel & Casino patron data and on-the-ground counts. Due to the on-going global COVID-19 pandemic, traffic count data obtained after approximately mid-March 2020 is considered to be reflective of a hybrid set of factors in which travel behavior is modified and not reflective of "normal" conditions. Due to this dynamic, the following approach was applied to establish baseline conditions to which the Proposed Project's traffic was added and its impacts assessed:

- Hard Rock Hotel & Casino patron data was obtained for the pre-COVID months of January and February 2020, as well as the months of October and November 2020.
- On-the-ground traffic counts were collected in November 2020 and January 2021 for the study facilities' weekday and weekend PM peak-periods (4:00 – 6:00 PM weekdays, 4:00 – 8:00 PM weekends).
- The patron data, both pre-COVID and current, reveals that the Saturday PM peak-hour is the highest patron, and therefore highest traffic generating period. However, Friday PM peak-hour traffic counts are higher than Saturday PM peak-hour traffic counts. Accordingly, the more conservative Friday PM peak-hour was used as the basis for weekend PM peak-hour traffic volumes.
- As shown in **Table 3**, the average of October/November 2020 patron data (representative of on-going COVID conditions) demonstrate an approximate 12-percent reduction in site activity when compared to the pre-COVID patron data from January/February 2020. For the purposes of this evaluation, the current patron data is approximated to be 15-percent lower than normal, pre-COVID conditions.
- The traffic count data collected in November 2020 and January 2021 was manually adjusted by applying an adjustment factor of 1.15 (adding 15-percent) to reflect pre-COVID conditions for use in this study.

Table 3 – Pre-COVID and Current Patron Data

Time Period	Pre-COVID Average Hourly Patrons	Current Average Hourly Patrons	Percent of Pre-COVID Hourly Patrons
Friday, 4:00 p.m. - 8 p.m.	525	416	79.24%
Saturday, 4:00 p.m. - 8 p.m.	679	603	88.91%

The Existing (2020) Weekday PM and Weekend PM peak-hour turn movement volumes for the study intersections are illustrated in **Exhibit 4.** Traffic count data is provided in **Appendix A. Table 4** presents the peak-hour intersection operating conditions for Existing (2020) Conditions.

Table 4 – Existing (2020) Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Existing (2020)	
				Delay (sec)	LOS
1	Forty Mile Road @ SB SR-65 Ramps	SSSC*	Weekday PM	4.1 (11.5 EB)	B
			Weekend PM	3.3 (10.2 EB)	B
2	Forty Mile Road @ Hard Rock North Driveway	SSSC*	Weekday PM	3.9 (10.4 WB)	B
			Weekend PM	3.7 (10.7 WB)	B
3	Forty Mile Road @ Hard Rock South Driveway	SSSC*	Weekday PM	2.9 (10.6 WB)	B
			Weekend PM	2.8 (10.2 WB)	B
4	Forty Mile Road @ Plumas Arboga Road	SSSC*	Weekday PM	4.3 (13.4 WB)	B
			Weekend PM	4.3 (12.3 WB)	B
5	Forty Mile Rd @ NB SR-65 Ramps	SSSC*	Weekday PM	6.3 (20.4 WB)	C
			Weekend PM	8.5 (26.2 WB)	D
6	McGowan Parkway @ SB SR-65 Ramps	SSSC*	Weekday PM	2.5 (12.1 SB)	B
			Weekend PM	2.8 (11.7 SB)	B
7	McGowan Parkway @ NB SR-65 Ramps	SSSC*	Weekday PM	7.2 (14.3 NB)	B
			Weekend PM	8.4 (15.7 NB)	C
8	McGowan Parkway @ SB SR-70 Ramps	SSSC*	Weekday PM	5.1 (20.5 SB)	C
			Weekend PM	4.4 (17.5 SB)	C
9	McGowan Parkway @ NB SR-70 Ramps	SSSC*	Weekday PM	**49.4 (196.9 NB)**	**F**
			Weekend PM	**26.1 (130.1 NB)**	**F**
10	SR-65 @ Main Street (Wheatland)	Signal	Weekday PM	**201.5**	**F**
			Weekend PM	**193.8**	**F**
11	SR-65 @ First Street (Wheatland)	Signal	Weekday PM	33.5	C
			Weekend PM	35.5	D
12	SR-65 @ South Beale Road	SSSC*	Weekday PM	**10.4 (104.9 WB)**	**F**
			Weekend PM	**11.5 (166.8 WB)**	**F**
13	Forty Mile Road @ Gas Station Driveway	SSSC*	Weekday PM		
			Weekend PM		

*Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst approach's delay. The reported LOS corresponds to the worst approach.

Note: **Bold** represents unacceptable operations.

Only the weekend PM peak-hour conditions were considered for the roadway segment analysis, as they represent the worst-case conditions for project conditions. **Table 5** presents the roadway segment operating conditions for Existing (2020) Conditions.

Table 5 – Existing (2020) Roadway Segment Levels of Service

ID	Location	Facility Type	Analysis Direction	Existing (2020)	
				Peak-Hour Volume	LOS
1	Forty Mile Road, North of Hard Rock Hotel	Arterial (Urban) - 4 lanes	NB	271	C or better
			SB	262	C or better
2	Forty Mile Road, South of Hard Rock Hotel	Arterial (Urban) - 4 lanes	NB	252	C or better
			SB	143	C or better

Opening Year (2021) Conditions

Opening Year (2021) Conditions were established by adding the traffic and access modifications associated with the proposed gas station with convenience store and smoke shop, and additional driveway to the Existing (2020) Conditions. Although their peak-hours are not anticipated to necessarily align, the peak-hour traffic for the gas station development was identified and assumed to overlap with the PM peak-hour as established above. **Table 6** presents the trip generation for the gas station project.

Table 6 – Proposed Gas Station Project Trip Generation

Land Use (ITE Code)	Size (ksf)	Daily Trips	PM Peak-Hour of Generator				
			Total Trips	In		Out	
				%	Trips	%	Trips
Gasoline/Service Station (944)	3.000	3,609	358	50%	179	50%	179
Convienence Market (851)	0.500	381	27	51%	14	49%	13
Subtotal Trips		**3,990**	**385**		**193**		**192**
Internal Reduction from Hard Rock Hotel & Casino (Enter 25%, Exit 25%)		-998	-96		-48		-48
Net New Project Trips		**2,992**	**289**		**145**		**144**
Source: Trip Generation Manual, 10th Edition.							

The Opening Year (2021) Weekday PM and Weekend PM peak-hour turn movement volumes for the study intersections are illustrated in **Exhibit 5**. Analysis worksheets are provided in **Attachment B**. **Table 7** presents the peak-hour intersection operating conditions for Opening Year (2021) Conditions. **Table 8** presents the roadway segment operating conditions for this scenario.

Table 7 – Opening Year (2021) Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Opening Year (2021)	
				Delay (sec)	LOS
1	Forty Mile Road @ SB SR-65 Ramps	SSSC*	Weekday PM	4.5 (12.6 EB)	B
			Weekend PM	3.7 (11.1 EB)	B
2	Forty Mile Road @ Hard Rock North Driveway	SSSC*	Weekday PM	3.3 (11.3 WB)	B
			Weekend PM	3.1 (11.5 WB)	B
3	Forty Mile Road @ Hard Rock South Driveway	SSSC*	Weekday PM	3.6 (11.4 WB)	B
			Weekend PM	3.6 (10.9 WB)	B
4	Forty Mile Road @ Plumas Arboga Road	SSSC*	Weekday PM	4.0 (15.9 WB)	C
			Weekend PM	3.9 (14.3 WB)	B
5	Forty Mile Rd @ NB SR-65 Ramps	SSSC*	Weekday PM	**10.1 (35.8 WB)**	**E**
			Weekend PM	**15.6 (58.9 WB)**	**F**
6	McGowan Parkway @ SB SR-65 Ramps	SSSC*	Weekday PM	2.4 (12.3 SB)	B
			Weekend PM	2.7 (11.9 SB)	B
7	McGowan Parkway @ NB SR-65 Ramps	SSSC*	Weekday PM	7.6 (14.8 NB)	B
			Weekend PM	8.8 (16.2 NB)	C
8	McGowan Parkway @ SB SR-70 Ramps	SSSC*	Weekday PM	5.3 (21.6 SB)	C
			Weekend PM	4.5 (18.2 SB)	C
9	McGowan Parkway @ NB SR-70 Ramps	SSSC*	Weekday PM	**54.1 (215.9 NB)**	**F**
			Weekend PM	**28.4 (140.7 NB)**	**F**
10	SR-65 @ Main Street (Wheatland)	Signal	Weekday PM	**203.7**	**F**
			Weekend PM	**196.2**	**F**
11	SR-65 @ First Street (Wheatland)	Signal	Weekday PM	35.4	D
			Weekend PM	37.0	D
12	SR-65 @ South Beale Road	SSSC*	Weekday PM	**12.0 (118.9 WB)**	**F**
			Weekend PM	**13.0 (184.7 WB)**	**F**
13	Forty Mile Road @ Gas Station Driveway	SSSC*	Weekday PM	2.2 (5.6 SB)	A
			Weekend PM	2.2 (5.6 SB)	A

*Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst approach's delay. The reported LOS corresponds to the worst approach.

Note: **Bold** represents unacceptable operations.

Table 8 – Opening Year (2021) Roadway Segment Levels of Service

ID	Location	Facility Type	Analysis Direction	Opening Year (2021)	
				Peak-Hour Volume	LOS
1	Forty Mile Road, North of Hard Rock Hotel	Arterial (Urban) - 4 lanes	NB	364	C or better
			SB	341	C or better
2	Forty Mile Road, South of Hard Rock Hotel	Arterial (Urban) - 4 lanes	NB	316	C or better
			SB	194	C or better

Assessment of Proposed Project

Project Trip Generation

Trip generation rates for the Proposed Hard Rock Live Project were based on a previous study of a similar facility at the Cache Creek Casino[3]. The land use interaction between the casino and the event facilities at the Cache Creek Casino and the Proposed Project's interaction with the existing Hard Rock Hotel & Casino is anticipated to be similar.

The previous Cache Creek Casino study considered the top sixteen drawing events which occurred on Fridays or Saturdays over the course of a twelve-month period. Ticket counts for each event, along with person counts via automatic counters at the multiple entrances to the event facility, were used to estimate the proportion of patrons arriving from outside and within the casino resort. More specifically, for each day included in the sample, daily patron counts from the automatic counters were used to calculate an average total daily patron count on event days. Of the sixteen samples, the average number of attendees at the event center was then compared to the average facility patron count from a sampling of the most recent non-event days. If people attending the events did not participate in gaming activities during their same visit, the increase in the daily patron count on event days would be equal to the average attendance at the events considered. However, the actual difference in person counts visiting the facility as a whole on event days versus non-event days was several hundred people. Using this data, it was possible to reasonably conclude that approximately 70-percent of the event center patrons would have visited the facility even without an event. As a result, the remaining 30-percent of the patrons represent new trips that would not have been expected to occur without the event venue. In an effort to be consistent, 30-percent of the Proposed Hard Rock Live's patrons are considered to be new trips to the existing hotel and casino site.

Vehicle occupancy was also based on the previous Cache Creek Casino study. The previous Cache Creek Casino study indicated a vehicle occupancy of 2.60 passengers per vehicle. As stated above, 70-percent of the patrons visiting the Proposed Hard Rock Live Project are anticipated to have already been on-site with the remaining 30-percent of the patrons representing new trips. Applying the average auto occupancy of 2.60 people per vehicle translates to approximately 346 new trips generated (30% *3,000 / 2.60 = 346).

It was assumed that of the "new" trips generated by the Proposed Hard Rock Live Project, 25-percent of the patrons would be expected to have arrived during the PM peak-hour before the start of the event. The remaining patrons are assumed to arrive early, considerably earlier than show time, to gamble and eat/drink on site. Thus, 87 new trips (25% * 346 = 87) are considered to be generated by the 3,000-seat Proposed Project during the PM peak-hour.

Lastly, ten percent of these trips (10% * 87 = 9) were also added as exiting trips during the peak-hour to reflect potential drop-off/pick-up activities and short duration site visits. This approach yields a total of 96 new peak hour trips (87 + 9 = 96) associated with the Proposed Project during the PM peak-hour. **Table 9** presents a summary of this trip generation data.

The existing facility's Traffic Impact Study[4] prepared for the Draft Environmental Impact Statement (DEIS) included trip generation calculations. **Table 10** provides a comparison of the existing Hard Rock Hotel & Casino trips and shows that adding the proposed event center trips to the existing facility trips would still remain under the DEIS trip threshold.

[3] *Cache Creek Casino Resort Event Center, Draft Impact Study*, Kimley-Horn and Associates, Inc., June 2010.
[4] *Enterprise Rancheria Casino-Hotel Traffic Impact Study*, Analytical Environmental Services, March 2003.

Table 9 – Proposed Project Trip Generation

Land Use	Size (seats)	Weekday PM Peak-Hour			Weekend PM Peak-Hour		
		Total Trips	In Trips	Out Trips	Total Trips	In Trips	Out Trips
Event Center	3,000	96	87	9	96	87	9
Net New Project Trips		**96**	**87**	**9**	**96**	**87**	**9**

Table 10 – Trip Generation Comparison

Source	Weekday PM Peak-Hour			Weekend PM Peak-Hour		
	Total Trips	In Trips	Out Trips	Total Trips	In Trips	Out Trips
DEIS, Alternative (A): Hotel & Casino	854	453	401	1,085	504	581
Existing Hard Rock Hotel & Casino	548	313	235	740	413	327
Proposed Event Center	96	87	9	96	87	9
Subtotal	644	400	244	836	500	336
Delta	**-210**	**-53**	**-157**	**-249**	**-4**	**-245**

Trip Distribution

The distribution of project traffic was developed based on existing project area roadway volumes, general knowledge of project area traffic patterns, and engineering judgement. Project trips were assigned to the study intersections and the surrounding roadway network according to these patterns.

Opening Year (2021) plus Project Conditions

Opening Year (2021) Plus Project Conditions were established by adding the traffic generated by the project to the Opening Year (2021) conditions. The Opening Year (2021) plus Project Weekday PM and Weekend PM peak-hour turn movement volumes for the study intersections are illustrated in **Exhibit 6**. Analysis worksheets are provided in **Attachment B**. **Table 11** presents the peak-hour intersection operating conditions for Opening Year (2021) plus Project Conditions. **Table 12** presents the roadway segment operating conditions for this scenario.

Impacts and Mitigation

Standards of Significance

Project impacts were determined by comparing conditions with the proposed project to those without the project. Impacts for intersections and roadway segments are created when traffic from the proposed project results in the LOS falling below a specific threshold. The Yuba County *General Plan*[2] specifies that LOS D shall be maintained on County roads in rural areas, thus LOS D was considered the threshold for this traffic evaluation.

Table 11 – Opening Year (2021) plus Project Intersection Levels of Service

ID	Intersection	Control	Peak Hour	Opening Year (2021) plus Project	
				Delay (sec)	LOS
1	Forty Mile Road @ SB SR-65 Ramps	SSSC*	Weekday PM	5.0 (13.4 EB)	B
			Weekend PM	4.2 (11.8 EB)	B
2	Forty Mile Road @ Hard Rock North Driveway	SSSC*	Weekday PM	3.5 (11.6 WB)	B
			Weekend PM	3.5 (11.9 WB)	B
3	Forty Mile Road @ Hard Rock South Driveway	SSSC*	Weekday PM	3.6 (11.8 WB)	B
			Weekend PM	3.5 (11.0 WB)	B
4	Forty Mile Road @ Plumas Arboga Road	SSSC*	Weekday PM	4.0 (16.9 WB)	C
			Weekend PM	3.7 (15.0 WB)	C
5	Forty Mile Rd @ NB SR-65 Ramps	SSSC*	Weekday PM	**12.6 (44.9 WB)**	**E**
			Weekend PM	**20.9 (78.8 WB)**	**F**
6	McGowan Parkway @ SB SR-65 Ramps	SSSC*	Weekday PM	2.4 (12.3 SB)	B
			Weekend PM	2.7 (11.9 SB)	B
7	McGowan Parkway @ NB SR-65 Ramps	SSSC*	Weekday PM	7.6 (14.8 NB)	B
			Weekend PM	8.9 (16.3 NB)	C
8	McGowan Parkway @ SB SR-70 Ramps	SSSC*	Weekday PM	5.3 (21.9 SB)	C
			Weekend PM	4.5 (18.2 SB)	C
9	McGowan Parkway @ NB SR-70 Ramps	SSSC*	Weekday PM	**54.3 (214.8 NB)**	**F**
			Weekend PM	**28.6 (139.7 NB)**	**F**
10	SR-65 @ Main Street (Wheatland)	Signal	Weekday PM	**205.2**	**F**
			Weekend PM	**197.3**	**F**
11	SR-65 @ First Street (Wheatland)	Signal	Weekday PM	36.1	D
			Weekend PM	37.5	D
12	SR-65 @ South Beale Road	SSSC*	Weekday PM	**12.3 (120.1 WB)**	**F**
			Weekend PM	**13.4 (185.5 WB)**	**F**
13	Forty Mile Road @ Gas Station Driveway	SSSC*	Weekday PM	4.5 (9.5 WB)	A
			Weekend PM	4.5 (9.5 WB)	A

*Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst approach's delay. The reported LOS corresponds to the worst approach.

Note: **Bold** represents unacceptaable operations. Gray shading represents a project induced deficiency resulting in improvement recommendations.

Table 12 – Opening Year (2021) plus Project Roadway Segment Levels of Service

ID	Location	Facility Type	Analysis Direction	Opening Year (2021) plus Project	
				Peak-Hour Volume	LOS
1	Forty Mile Road, North of Hard Rock Hotel	Arterial (Urban) - 4 lanes	NB	399	C or better
			SB	630	C or better
2	Forty Mile Road, South of Hard Rock Hotel	Arterial (Urban) - 4 lanes	NB	553	C or better
			SB	213	C or better

Project Impacts and Mitigation

As reflected in **Table 11** and **Table 12**, the following intersections operate at substandard LOS with and without the project for the Opening Year (2021) Conditions:

- #5 (Forty Mile Road @ NB SR-65 Ramps)
- #9 (McGowan Parkway @ NB SR-70 Ramps)
- #10 (SR-65 @ Main Street)
- #12 (SR-65 @ South Beale Road))

The following is a summary of the recommended mitigations for each of these intersection operating deficiencies:

- #5 (Forty Mile Road @ NB SR-65 Ramps)
  This intersection operates sub standardly today and the addition of the Proposed Project adds traffic to this deficient condition. We have determined that this impact can be mitigated with the addition of All Way Stop Control (AWSC). The operations resulting from this mitigation are summarized in **Table 13**. It is important to note that this intersection's operating conditions are consistent with the EIS[1]. Because this intersection operates at substandard levels without the project, the project should contribute its proportionate share toward future improvements determined by an Intersection Control Evaluation (ICE) to be completed (by others).
- #9 (McGowan Parkway @ NB SR-70 Ramps)
  This intersection operates sub standardly today and the addition of the Proposed Project adds traffic to this deficient condition. We have determined that this impact can be mitigated with the addition of traffic signal control. The operations resulting from this mitigation are summarized in **Table 13**. It is important to note that this intersection's operating conditions are consistent with the EIS[1]. Because this intersection operates at substandard levels without the project, the project should contribute its proportionate share toward future improvements determined by an Intersection Control Evaluation (ICE) to be completed (by others).
- #10 (SR-65 @ Main Street (Wheatland))
  This intersection operates sub standardly today and the addition of the Proposed Project adds traffic to this deficient condition. It is important to note that this intersection's operating conditions are consistent with the EIS[1]. In fact, the EIS' stated mitigations have already been constructed. Because this intersection operates at substandard levels without the project, the project should contribute its proportionate share toward improvements through Wheatland, understood to be in the form of a Wheatland Bypass.
- #12 (SR-65 @ South Beale Road)
  This intersection operates sub standardly today and the addition of the Proposed Project adds traffic to this deficient condition. We have determined that this impact can be mitigated with the addition of traffic signal control. The operations resulting from this mitigation are summarized in **Table 13**. Because this intersection operates at substandard levels without the project, the project should contribute its proportionate share toward future improvements determined by an Intersection Control Evaluation (ICE) to be completed (by others).

Table 13 – Intersection Levels of Service (Summary)

ID	Intersection	Control	Peak Hour	Existing (2020)		Opening Year (2021)		Opening Year (2021) plus Project		OYPP (2021) Mitigation	
				Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Forty Mile Road @ SB SR-65 Ramps	SSSC*	Weekday PM	4.1 (11.5 EB)	B	4.5 (12.6 EB)	B	5.0 (13.4 EB)	B	5.0 (13.4 EB)	B
			Weekend PM	3.3 (10.2 EB)	B	3.7 (11.1 EB)	B	4.2 (11.8 EB)	B	4.2 (11.8 EB)	B
2	Forty Mile Road @ Hard Rock North Driveway	SSSC*	Weekday PM	3.9 (10.4 WB)	B	3.3 (11.3 WB)	B	3.5 (11.6 WB)	B	3.5 (11.6 WB)	B
			Weekend PM	3.7 (10.7 WB)	B	3.1 (11.5 WB)	B	3.5 (11.9 WB)	B	3.5 (11.9 WB)	B
3	Forty Mile Road @ Hard Rock South Driveway	SSSC*	Weekday PM	2.9 (10.6 WB)	B	3.6 (11.4 WB)	B	3.6 (11.8 WB)	B	3.6 (11.8 WB)	B
			Weekend PM	2.8 (10.2 WB)	B	3.6 (10.9 WB)	B	3.5 (11.0 WB)	B	3.5 (11.0 WB)	B
4	Forty Mile Road @ Plumas Arboga Road	SSSC*	Weekday PM	4.3 (13.4 WB)	B	4.0 (15.9 WB)	C	4.0 (16.9 WB)	C	4.0 (16.9 WB)	C
			Weekend PM	4.3 (12.3 WB)	B	3.9 (14.3 WB)	B	3.7 (15.0 WB)	C	3.7 (15.0 WB)	C
5	Forty Mile Rd @ NB SR-65 Ramps	SSSC*	Weekday PM	6.3 (20.4 WB)	C	**10.1 (35.8 WB)**	**E**	**12.6 (44.9 WB)**	**E**	12.7	B
			Weekend PM	8.5 (26.2 WB)	D	**15.6 (58.9 WB)**	**F**	**20.9 (78.8 WB)**	**F**	14.0	B
6	McGowan Parkway @ SB SR-65 Ramps	SSSC*	Weekday PM	2.5 (12.1 SB)	B	2.4 (12.3 SB)	B	2.4 (12.3 SB)	B	2.4 (12.3 SB)	B
			Weekend PM	2.8 (11.7 SB)	B	2.7 (11.9 SB)	B	2.7 (11.9 SB)	B	2.7 (11.9 SB)	B
7	McGowan Parkway @ NB SR-65 Ramps	SSSC*	Weekday PM	7.2 (14.3 NB)	B	7.6 (14.8 NB)	B	7.6 (14.8 NB)	B	7.6 (14.8 NB)	B
			Weekend PM	8.4 (15.7 NB)	C	8.8 (16.2 NB)	C	8.9 (16.3 NB)	C	8.9 (16.3 NB)	C
8	McGowan Parkway @ SB SR-70 Ramps	SSSC*	Weekday PM	5.1 (20.5 SB)	C	5.3 (21.6 SB)	C	5.3 (21.9 SB)	C	5.3 (21.9 SB)	C
			Weekend PM	4.4 (17.5 SB)	C	4.5 (18.2 SB)	C	4.5 (18.2 SB)	C	4.5 (18.2 SB)	C
9	McGowan Parkway @ NB SR-70 Ramps	SSSC*	Weekday PM	**49.4 (196.9 NB)**	**F**	**54.1 (215.9 NB)**	**F**	**54.3 (214.8 NB)**	**F**	8.7	A
			Weekend PM	**26.1 (130.1 NB)**	**F**	**28.4 (140.7 NB)**	**F**	**28.6 (139.7 NB)**	**F**	7.9	A
10	SR-65 @ Main Street (Wheatland)	Signal	Weekday PM	**201.5**	**F**	**203.7**	**F**	**205.2**	**F**	205.2	**F**
			Weekend PM	**193.8**	**F**	**196.2**	**F**	**197.3**	**F**	197.3	**F**
11	SR-65 @ First Street (Wheatland)	Signal	Weekday PM	33.5	C	35.4	D	36.1	D	36.1	D
			Weekend PM	35.5	D	37.0	D	37.5	D	37.5	D
12	SR-65 @ South Beale Road	SSSC*	Weekday PM	**10.4 (104.9 WB)**	**F**	**12.0 (118.9 WB)**	**F**	**12.3 (120.1 WB)**	**F**	4.4	A
			Weekend PM	**11.5 (166.8 WB)**	**F**	**13.0 (184.7 WB)**	**F**	**13.4 (185.5 WB)**	**F**	5.0	A
13	Forty Mile Road @ Gas Station Driveway	SSSC*	Weekday PM			2.2 (5.6 SB)	A	4.5 (9.5 WB)	A	4.5 (9.5 WB)	A
			Weekend PM			2.2 (5.6 SB)	A	4.5 (9.5 WB)	A	4.5 (9.5 WB)	A

*Side Street Stop Controlled (SSSC) intersections are reported with the intersection delay followed by the worst approach's delay. The reported LOS corresponds to the worst approach.

Note: **Bold** represents unacceptaable operations. Gray shading represents a project induced deficiency resulting in improvement recommendations.

Additional Considerations

Peak-Hour Signal Warrant

A planning level assessment of the need for traffic signalization was performed for Intersection #9 (McGowan Parkway @ NB SR-70 Ramps) and Intersection #12 (SR-65 @ South Beale Road). This evaluation was performed consistently with the peak-hour warrant methodologies noted in Section 4C of the *California Manual on Uniform Traffic Control Devices (CMUTCD).* A summary of the peak-hour warrant results is presented in **Table 14**.

Table 14 – Traffic Signal Peak-Hour Warrant Analysis Results

#	Intersection	Analysis Scenario		
		Existing (2020)	Opening Year (2021)	Opening Year (2021) plus PP
9	McGowan Parkway @ NB SR-70 Ramps	No / No	No / No	No / No
12	SR-65 @ South Beale Road	Yes / Yes	Yes / Yes	Yes / Yes

Results are presented in Weekday / Weekend format. Note: Peak-hour warrant is satisfied if Condition A or B is satisfied.

As shown in **Table 14**, the addition of the proposed project does not result in the peak-hour signal warrant being satisfied. It should be noted that Intersection #9 (McGowan Parkway at NB SR-70 Ramps) was previously indicated for mitigation with traffic signal control. Because the peak-hour signal warrant is not satisfied, a more comprehensive warrant analysis should be completed. Detailed results of this analysis are presented in **Attachment C**.

Queuing Evaluation

For the queuing analysis, the anticipated vehicle queues for critical movements at certain intersections were evaluated based on results from Synchro traffic analysis software. The calculated vehicle queues were compared to actual or anticipated vehicle storage/segment lengths. Results of the queuing evaluation are presented in **Table 15**. Analysis sheets that include the anticipated vehicle queues are presented in **Attachment B**. As presented in **Table 15**, the addition of the proposed project does not add more than one vehicle length to the queue lengths at these locations.

Table 15 – Intersection Queuing Evaluation Results for Select Locations

Intersection		Movement	Available Storage (ft)	95th % Queue (ft)					
				Existing (2020)		Opening Year (2021)		Opening Year (2021) plus Project	
				Weekday PM Peak-Hour	Weekend PM Peak-Hour	Weekday PM Peak-Hour	Weekend PM Peak-Hour	Weekday PM Peak-Hour	Weekend PM Peak-Hour
2	Forty Mile Road @ Hard Rock North Driveway	SBL	125	25	25	25	25	25	25
3	Forty Mile Road @ Hard Rock South Driveway	SBL	125	25	25	25	25	25	25
5	Forty Mile Road @ NB SR-65 Ramps	WB LTR	1,550	50	50	75	125	125	175
		NBL	1,200	25	25	25	50	25	50
9	McGowan Parkway @ NB SR-70 Ramps	NB LTR	1,700	375	225	400	250	400	250
		EBL	375	25	25	25	25	25	25
13	Forty Mile Road @ Gas Station Driveway	SBL	125	-	-	25	25	25	25
		WB LR	150	-	-	0	0	25	25

Conclusions

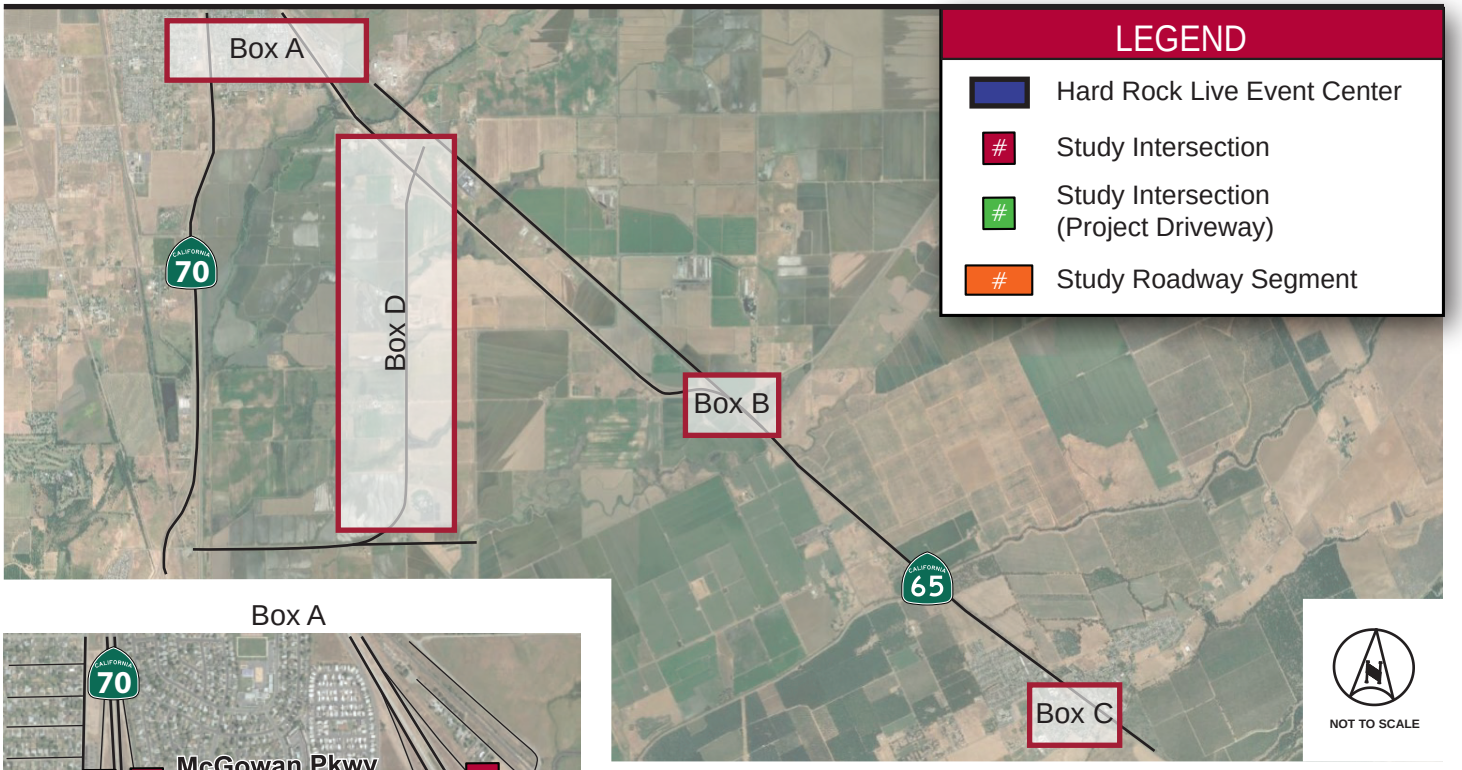
The following are the primary conclusions based on the analyses discussed herein:

- Current patron data indicates that the persistent COVID-19 pandemic conditions equate to an approximate 15-percent reduction in site traffic at the time of this study.
- The addition of the Proposed Hard Rock Live Project is estimated to generate 87 entering and 9 exiting trips at the project site during both the Weekday and Weekend PM peak-hours.
- The following improvements are recommended:
    - #5 (Forty Mile Road @ NB SR-65 Ramps) – proportionate share contribution towards future improvements
    - #9 (McGowan Parkway @ NB SR-70 Ramps) – proportionate share contribution towards future improvements
    - #10 (SR-65 @ Main Street) – proportionate share contribution toward improvements through Wheatland, understood to be in the form of a Wheatland bypass
    - #12 (SR-65 @ South Beale Road) – proportionate share contribution towards future improvement

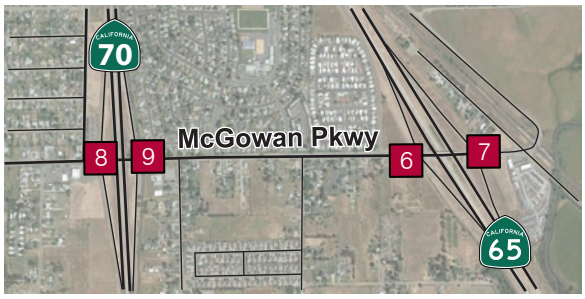
Attachments

Exhibit 1 – Vicinity Map
Exhibit 2 – Project Site Plan
Exhibit 3 – Study Intersections, Traffic Control, and Lane Geometries
Exhibit 4 – Existing (2020) Weekday and Weekend PM Peak-Hour Traffic Volumes
Exhibit 5 – Opening Year (2021) Weekday and Weekend PM Peak-Hour Traffic Volumes
Exhibit 6 – Opening Year (2021) Plus Project Weekday and Weekend PM Peak-Hour Traffic Volumes

Attachment A – Traffic Count Data Sheets
Attachment B – Analysis Worksheets
Attachment C – Traffic Signal Peak-Hour Warrant Analysis



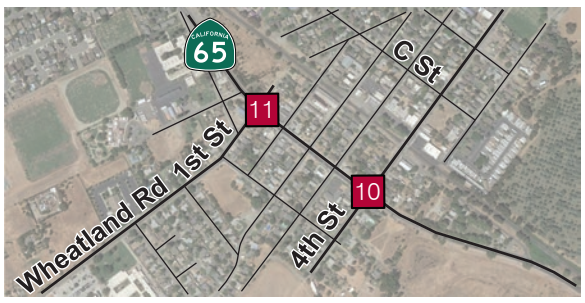
Box A

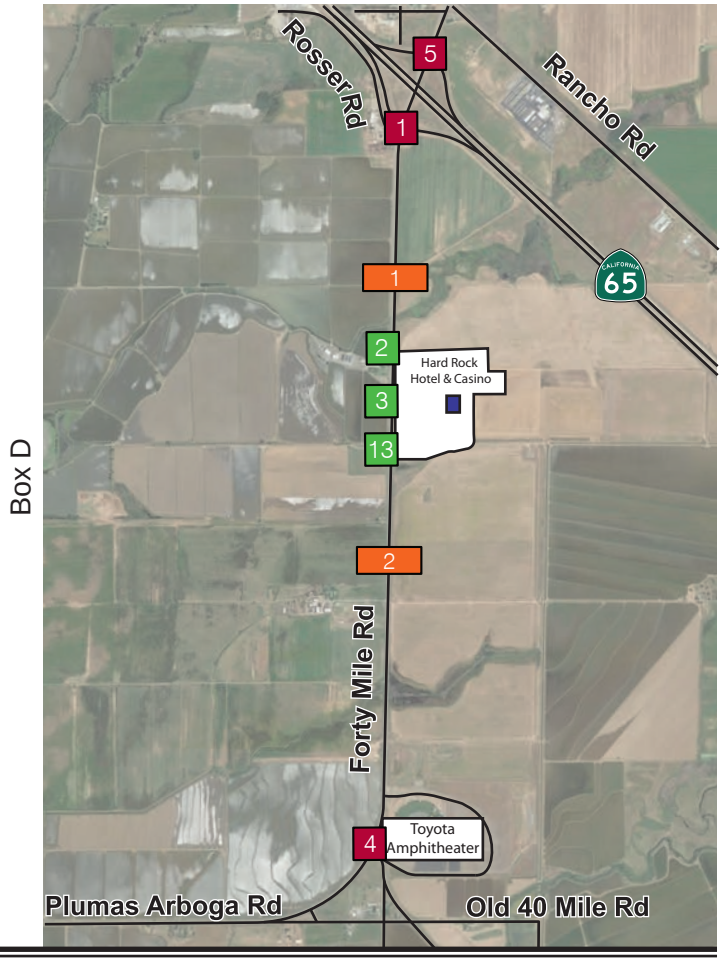


Box B



Box C

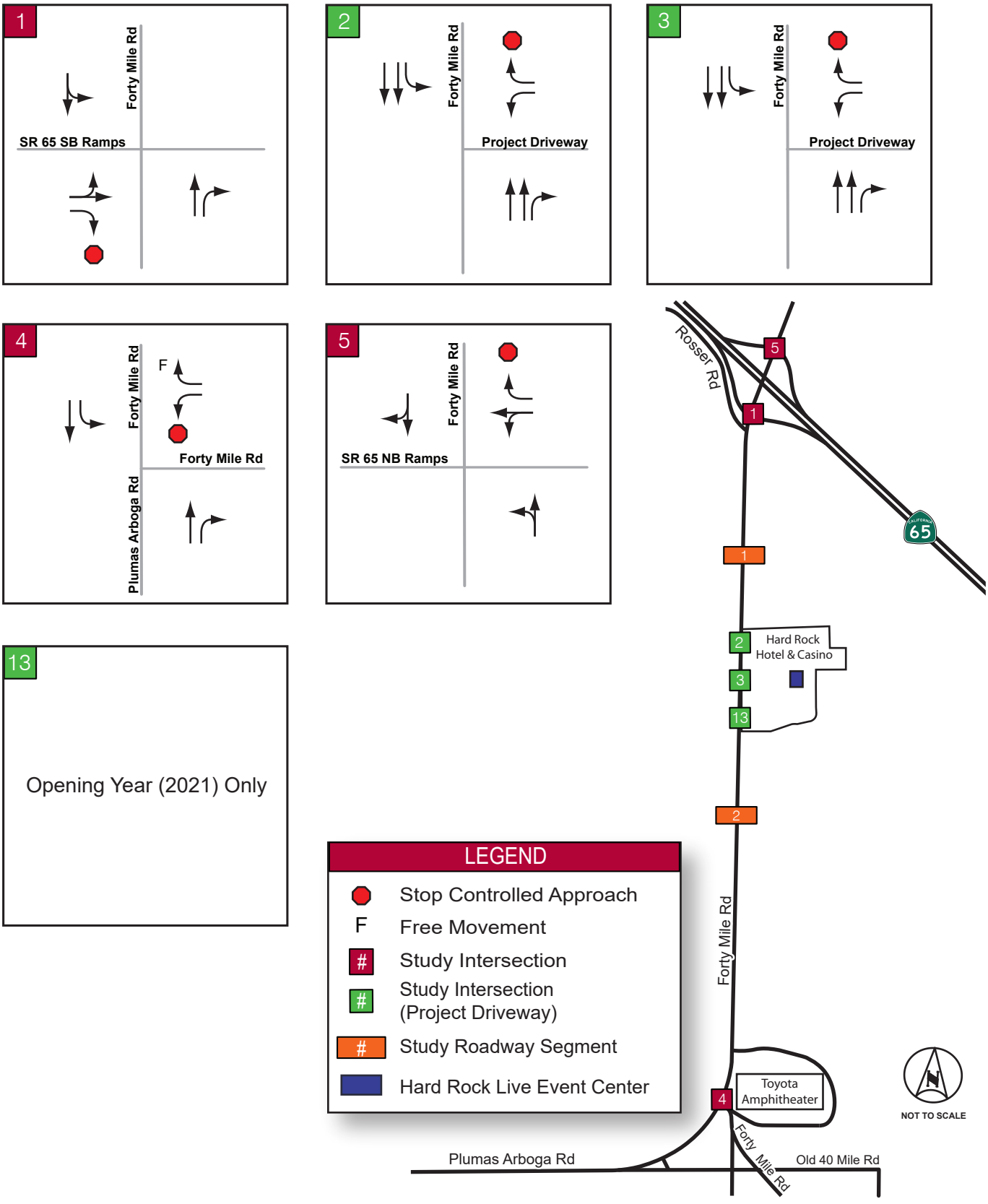


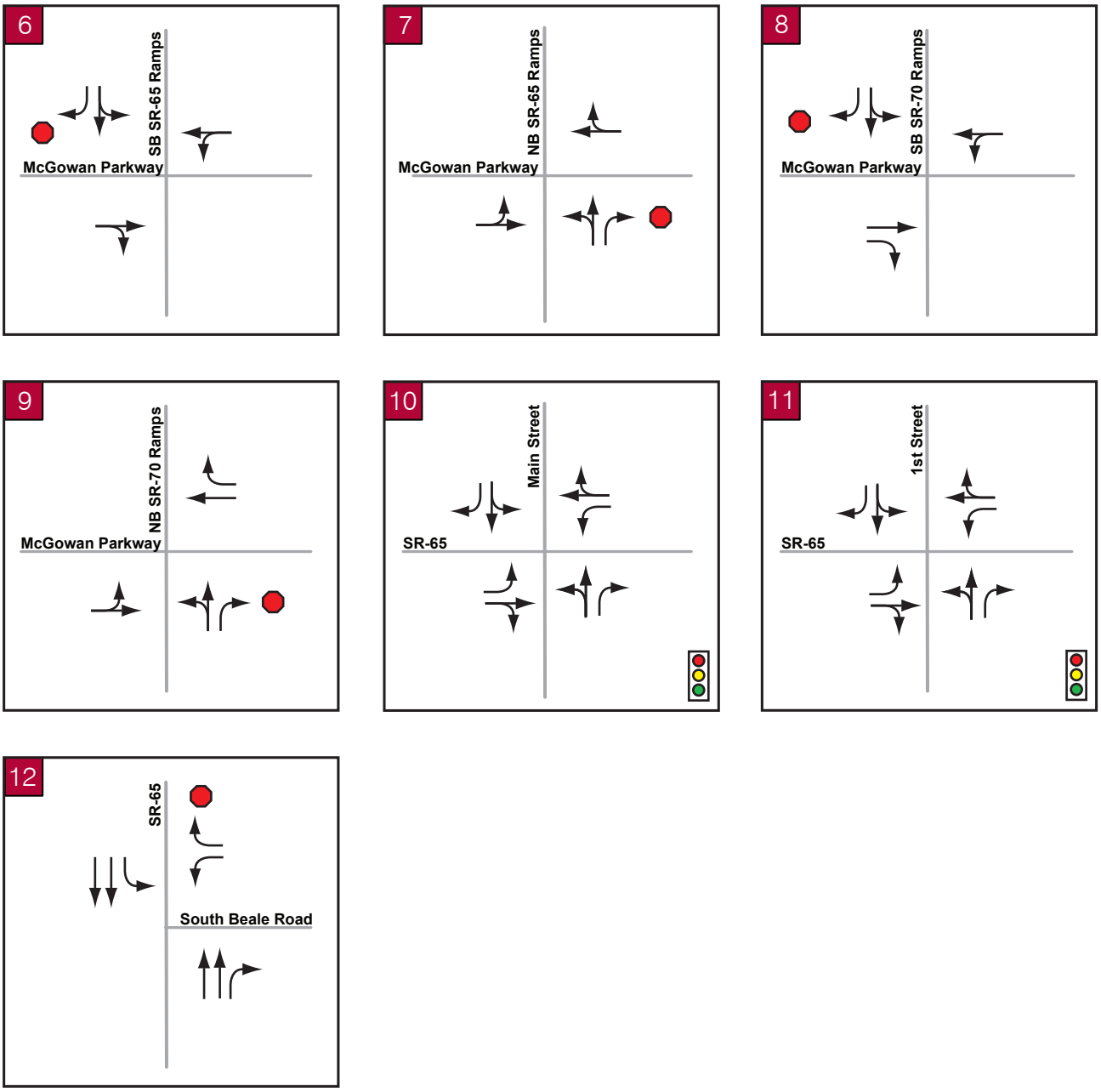


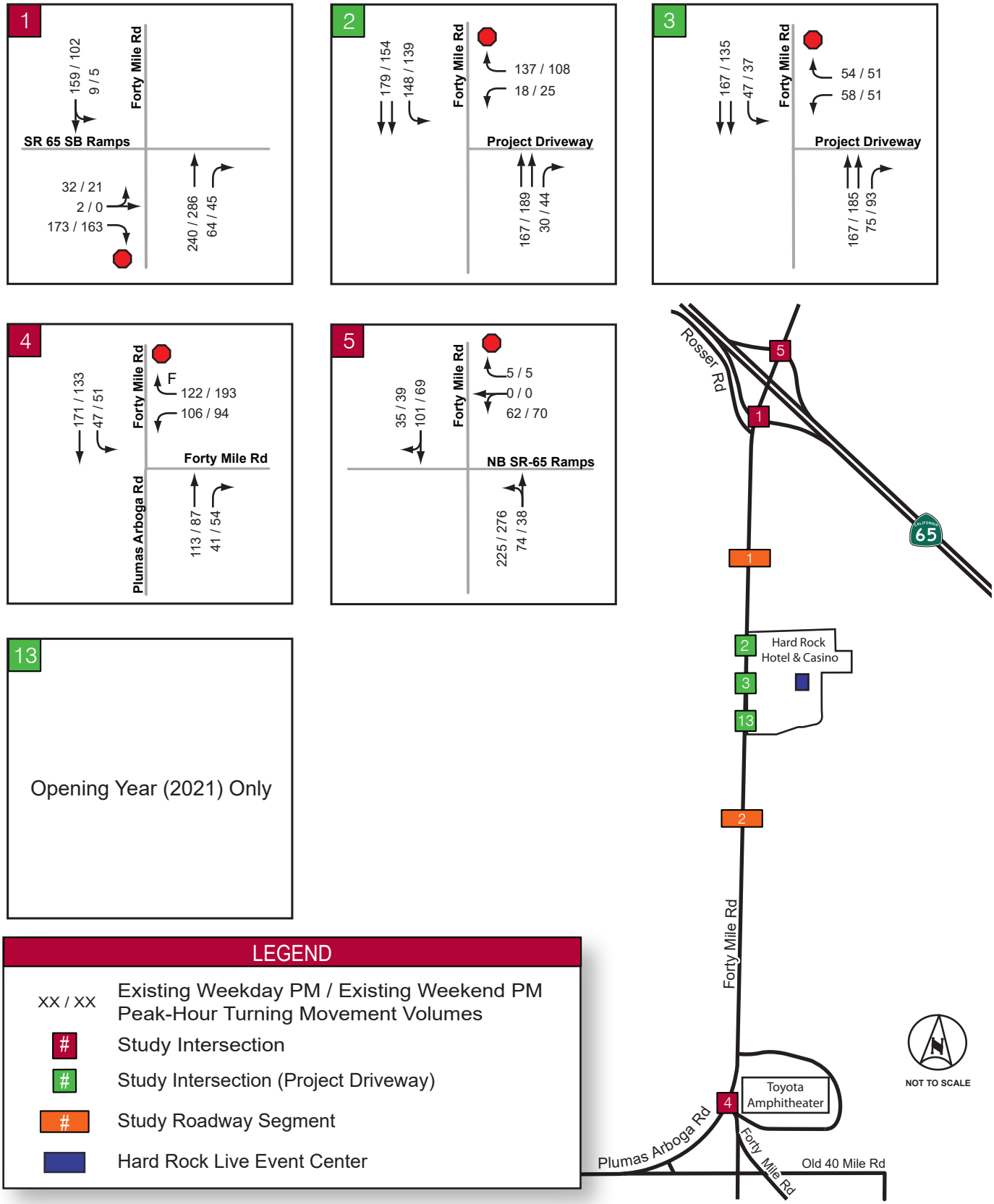
Kimley»Horn

Exhibit 1
Proposed Project Vicinity Map

[To Be Provided]


1
Forty Mile Rd
SR 65 SB Ramps
2
Forty Mile Rd
Project Driveway
3
Forty Mile Rd
Project Driveway
4
F
Forty Mile Rd
Forty Mile Rd
Plumas Arboga Rd
5
Forty Mile Rd
SR 65 NB Ramps
13
Opening Year (2021) Only
Rosser Rd
5
1
65
1
2
Hard Rock
Hotel & Casino
3
13
2
Forty Mile Rd
LEGEND
Stop Controlled Approach
F
Free Movement
#
Study Intersection
#
Study Intersection
(Project Driveway)
#
Study Roadway Segment
Hard Rock Live Event Center
4
Toyota
Amphitheater
NOT TO SCALE
Plumas Arboga Rd
Forty Mile Rd
Old 40 Mile Rd

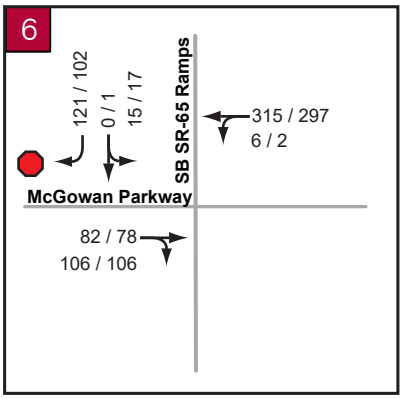

6
SB SR-65 Ramps
McGowan Parkway
7
NB SR-65 Ramps
McGowan Parkway
8
SB SR-70 Ramps
McGowan Parkway
9
NB SR-70 Ramps
McGowan Parkway
10
Main Street
SR-65
11
1st Street
SR-65
12
SR-65
South Beale Road
LEGEND
Stop Controlled Approach
Signalized Intersection

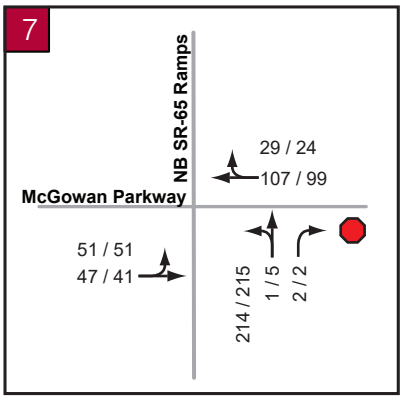


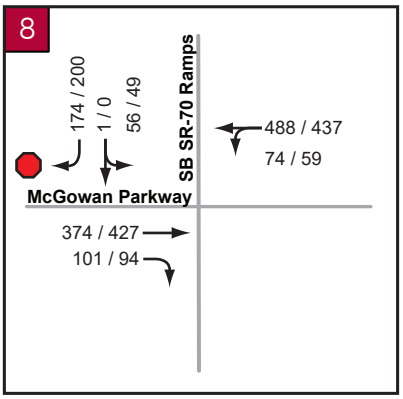
Kimley»Horn

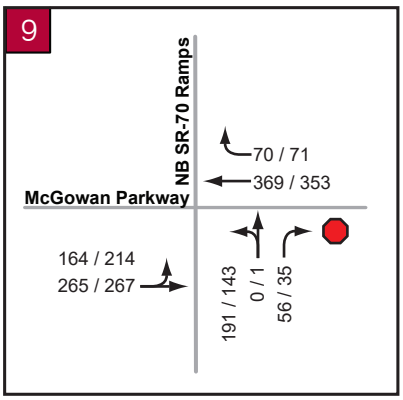
Exhibit 4a

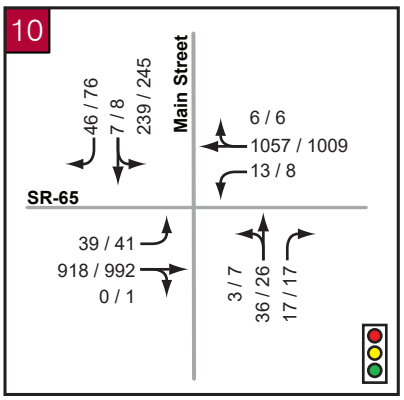
Existing Weekday + Weekend PM Peak-Hour Traffic Volumes

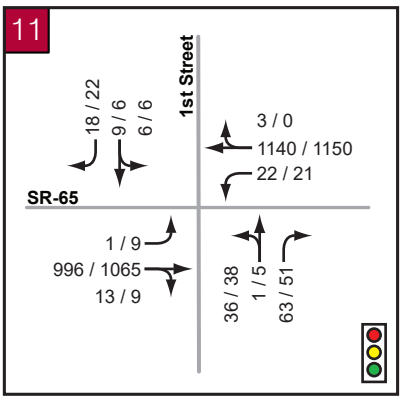


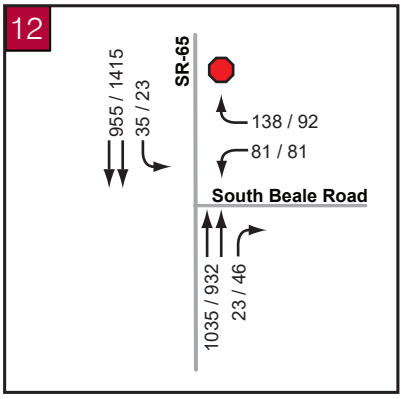




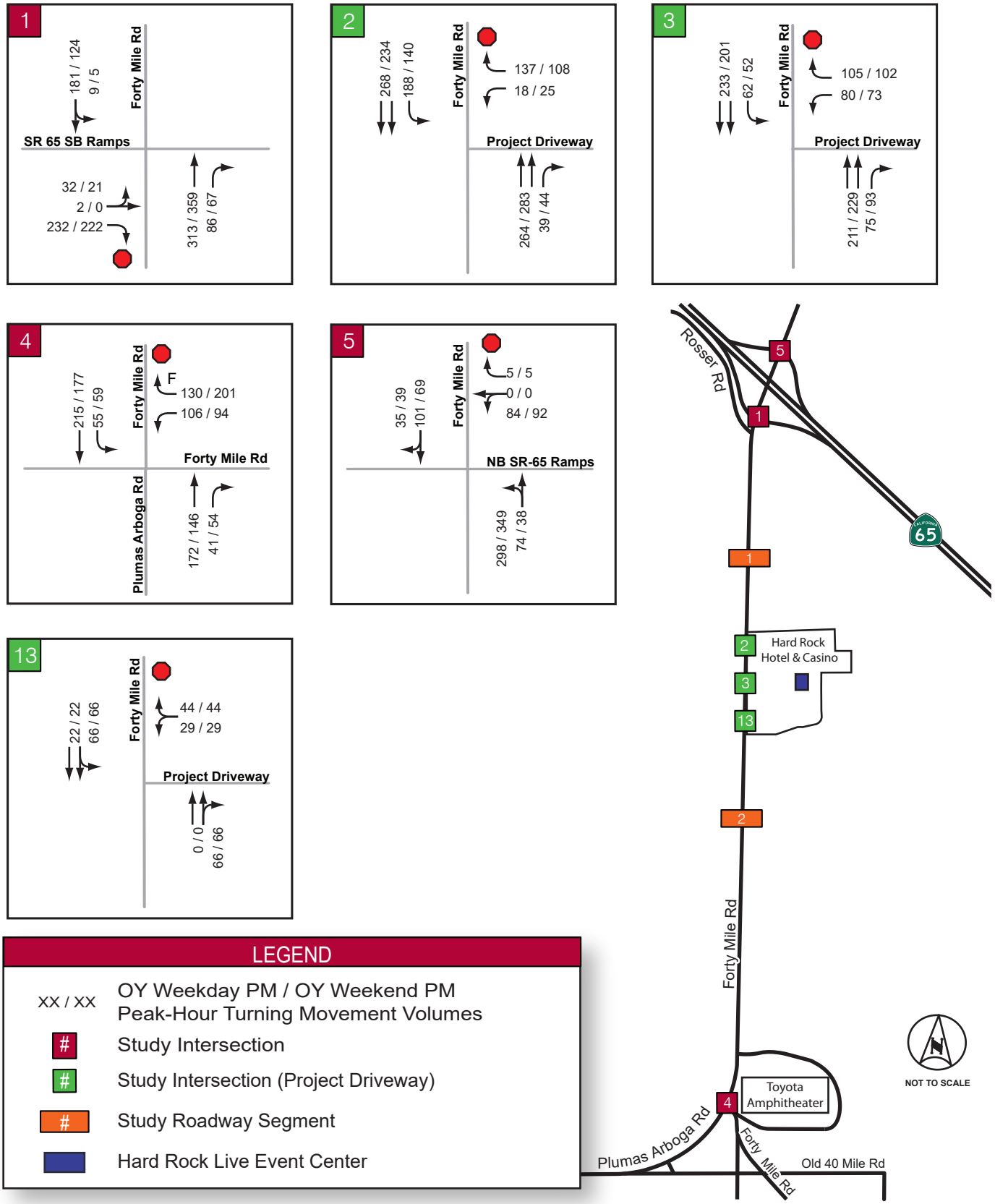


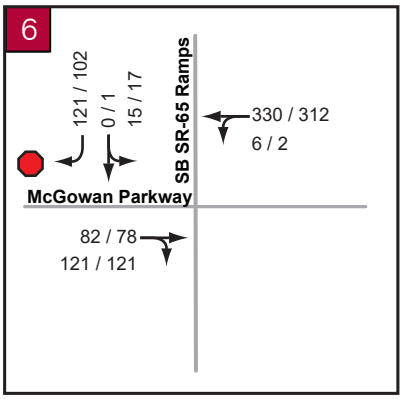


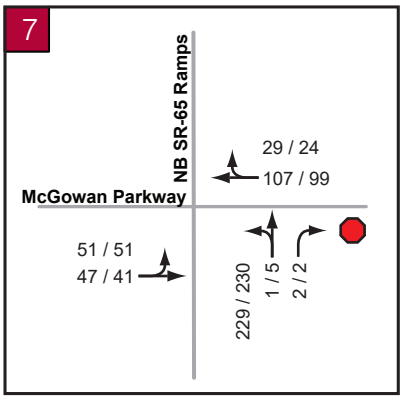


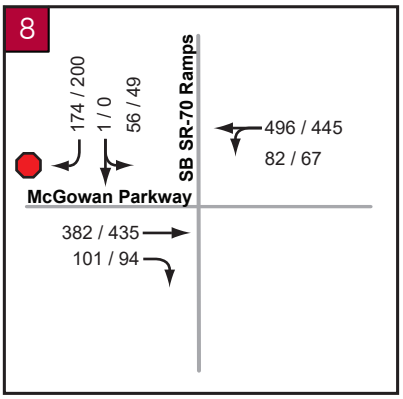


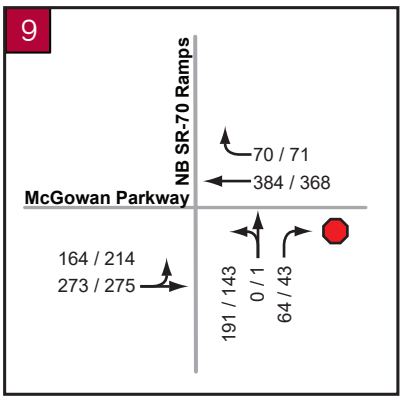
LEGEND	
XX / XX	Existing Weekday PM / Existing Weekend PM Peak-Hour Turning Movement Volumes

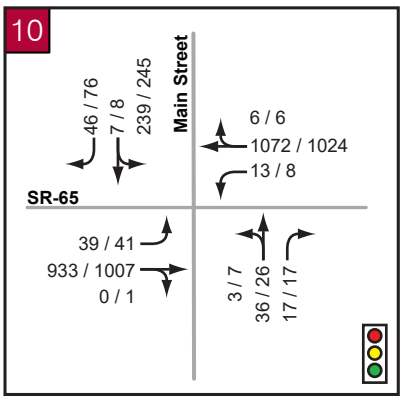

1
Forty Mile Rd
181 / 124
9 / 5
SR 65 SB Ramps
32 / 21
2 / 0
232 / 222
313 / 359
86 / 67
2
268 / 234
188 / 140
Forty Mile Rd
137 / 108
18 / 25
Project Driveway
264 / 283
39 / 44
3
233 / 201
62 / 52
Forty Mile Rd
105 / 102
80 / 73
Project Driveway
211 / 229
75 / 93
4
215 / 177
55 / 59
Forty Mile Rd
F
130 / 201
106 / 94
Forty Mile Rd
Plumas Arboga Rd
172 / 146
41 / 54
5
35 / 39
101 / 69
Forty Mile Rd
5 / 5
0 / 0
84 / 92
NB SR-65 Ramps
298 / 349
74 / 38
13
22 / 22
66 / 66
Forty Mile Rd
44 / 44
29 / 29
Project Driveway
0 / 0
66 / 66
Rosser Rd
5
1
65
1
2
Hard Rock
Hotel & Casino
3
13
2
Forty Mile Rd
4
Toyota
Amphitheater
Plumas Arboga Rd
Forty Mile Rd
Old 40 Mile Rd
NOT TO SCALE
LEGEND
XX / XX
OY Weekday PM / OY Weekend PM
Peak-Hour Turning Movement Volumes
#
Study Intersection
#
Study Intersection (Project Driveway)
#
Study Roadway Segment
Hard Rock Live Event Center

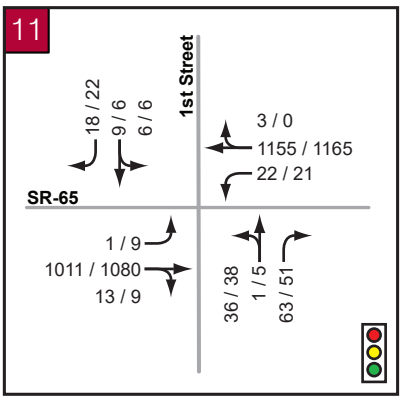


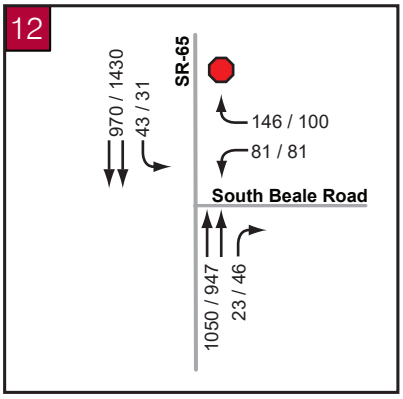




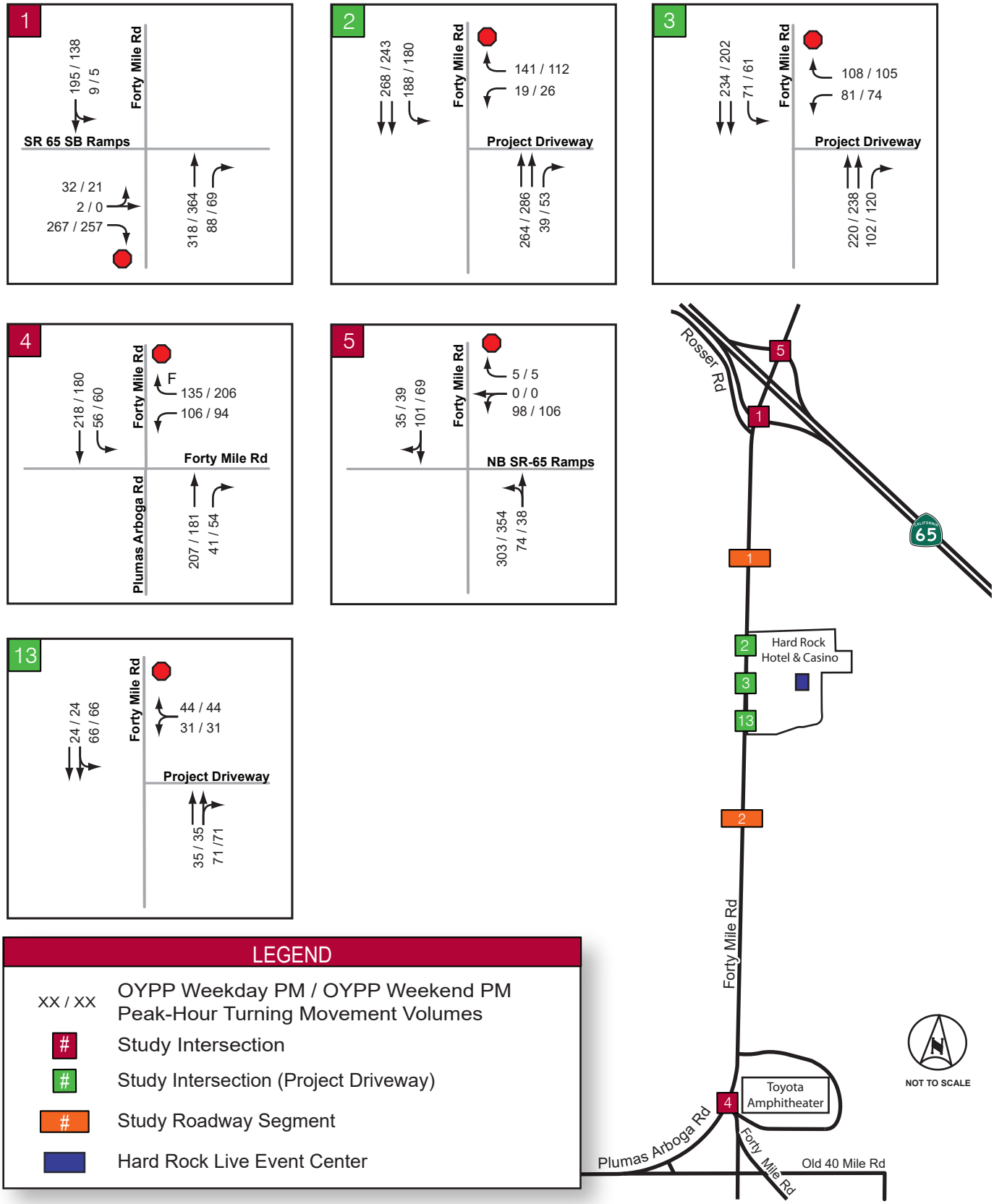


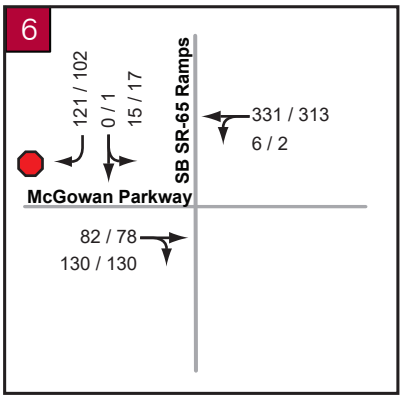


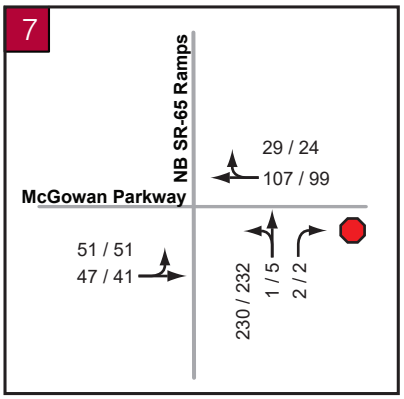


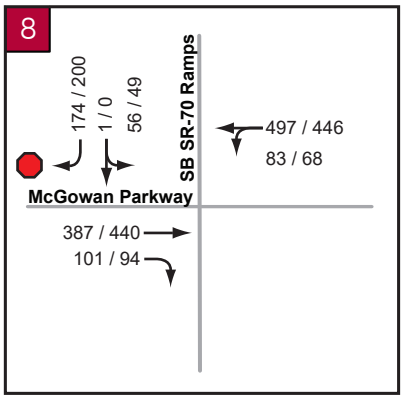


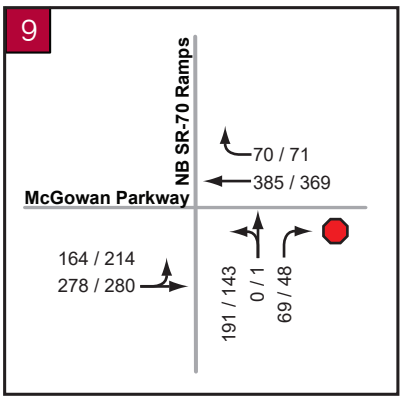
LEGEND	
xx / xx	OY Weekday PM / OY Weekend PM Peak-Hour Turning Movement Volumes

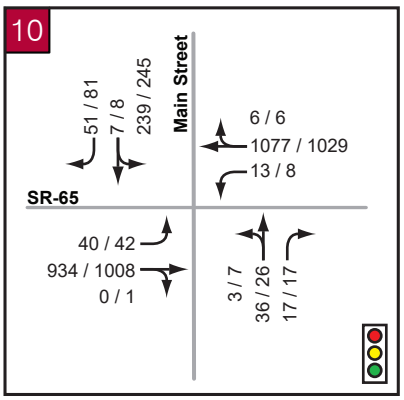

1
Forty Mile Rd
195 / 138
9 / 5
SR 65 SB Ramps
32 / 21
2 / 0
267 / 257
318 / 364
88 / 69
2
268 / 243
188 / 180
Forty Mile Rd
141 / 112
19 / 26
Project Driveway
264 / 286
39 / 53
3
234 / 202
71 / 61
Forty Mile Rd
108 / 105
81 / 74
Project Driveway
220 / 238
102 / 120
4
218 / 180
56 / 60
Forty Mile Rd
F
135 / 206
106 / 94
Forty Mile Rd
Plumas Arboga Rd
207 / 181
41 / 54
5
35 / 39
101 / 69
Forty Mile Rd
5 / 5
0 / 0
98 / 106
NB SR-65 Ramps
303 / 354
74 / 38
13
24 / 24
66 / 66
Forty Mile Rd
44 / 44
31 / 31
Project Driveway
35 / 35
71 / 71
Rosser Rd
5
1
65
1
2
Hard Rock
Hotel & Casino
3
13
2
Forty Mile Rd
4
Toyota
Amphitheater
Plumas Arboga Rd
Forty Mile Rd
Old 40 Mile Rd
NOT TO SCALE
LEGEND
XX / XX
OYPP Weekday PM / OYPP Weekend PM
Peak-Hour Turning Movement Volumes
#
Study Intersection
#
Study Intersection (Project Driveway)
#
Study Roadway Segment
Hard Rock Live Event Center

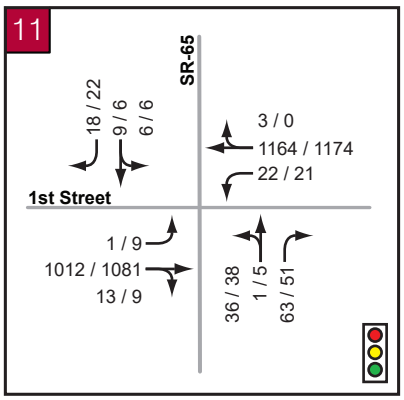


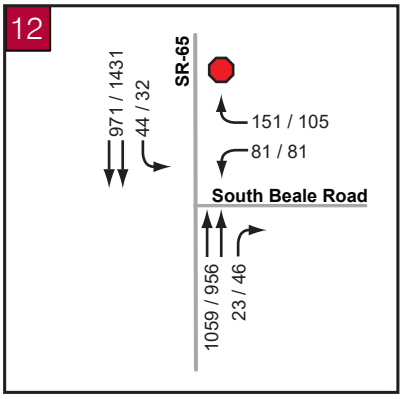












LEGEND	
XX / XX	OYPP Weekday PM / OYPP Weekend PM Peak-Hour Turning Movement Volumes

Attachment A
Traffic Count Data Sheets

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd & SR-65 EB Ramps
City: Wheatland
Control: 1-Way Stop (EB)

Project ID: 20-070200-001
Date: 11/20/2020

Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				SR-65 EB Ramps				SR-65 EB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	0	0.5	0.5	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	63	15	0	2	22	0	0	6	0	31	0	0	0	0	0	139
4:15 PM	0	64	8	0	1	18	0	0	3	0	33	0	0	0	0	0	127
4:30 PM	0	70	8	0	1	24	0	0	5	0	32	0	0	0	0	0	140
4:45 PM	0	52	8	0	0	25	0	0	4	0	46	0	0	0	0	0	135
5:00 PM	0	58	12	0	0	20	0	0	5	0	26	0	0	0	0	0	121
5:15 PM	0	59	13	0	0	29	0	0	1	0	36	0	0	0	0	0	138
5:30 PM	0	52	8	0	1	25	0	0	0	0	50	0	0	0	0	0	136
5:45 PM	0	48	7	0	1	26	0	0	1	0	44	0	0	0	0	0	127
6:00 PM	0	50	14	0	1	22	0	0	0	0	35	0	0	0	0	0	122
6:15 PM	0	41	14	0	0	7	0	0	1	0	30	0	0	0	0	0	93
6:30 PM	0	46	10	0	1	14	0	0	2	0	47	0	0	0	0	0	120
6:45 PM	0	35	9	0	1	19	0	0	1	0	32	0	0	0	0	0	97
7:00 PM	0	35	6	0	1	16	0	0	2	0	35	0	0	0	0	0	95
7:15 PM	0	30	11	0	0	11	0	0	1	0	27	0	0	0	0	0	80
7:30 PM	0	32	12	0	1	13	0	0	1	0	39	0	0	0	0	0	98
7:45 PM	0	32	9	0	0	17	0	0	4	0	30	0	0	0	0	0	92
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	767	164	0	11	308	0	0	37	0	573	0	0	0	0	0	1860
APPROACH %'s :	0.00%	82.38%	17.62%	0.00%	3.45%	96.55%	0.00%	0.00%	6.07%	0.00%	93.93%	0.00%					
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	249	39	0	4	89	0	0	18	0	142	0	0	0	0	0	541
PEAK HR FACTOR :	0.000	0.889	0.650	0.000	0.500	0.890	0.000	0.000	0.750	0.000	0.772	0.000	0.000	0.000	0.000	0.000	0.966
		0.923				0.930				0.800							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd & SR-65 EB Ramps
City: Wheatland
Control: 1-Way Stop (EB)

Project ID: 20-070200-001
Date: 11/21/2020

Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				SR-65 EB Ramps				SR-65 EB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	0	0.5	0.5	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	46	16	0	0	22	0	0	1	1	35	0	0	0	0	0	121
4:15 PM	0	38	20	0	0	14	0	0	1	0	52	0	0	0	0	0	125
4:30 PM	0	46	11	0	0	19	0	0	1	0	37	0	0	0	0	0	114
4:45 PM	0	42	11	0	0	24	0	0	0	0	31	0	0	0	0	0	108
5:00 PM	0	34	11	0	1	23	0	0	0	0	36	0	0	0	0	0	105
5:15 PM	0	45	21	0	0	18	0	0	3	0	26	0	0	0	0	0	113
5:30 PM	0	47	20	0	0	23	0	0	2	0	36	0	0	0	0	0	128
5:45 PM	0	42	13	0	3	22	0	0	3	0	48	0	0	0	0	0	131
6:00 PM	0	34	17	0	0	15	0	0	0	0	42	0	0	0	0	0	108
6:15 PM	0	24	18	0	0	20	0	0	3	0	35	0	0	0	0	0	100
6:30 PM	0	44	7	0	0	18	0	0	0	0	46	0	0	0	0	0	115
6:45 PM	0	34	13	0	0	18	0	0	1	0	45	0	0	0	0	0	111
7:00 PM	0	43	13	0	0	8	0	0	2	0	29	0	0	0	0	0	95
7:15 PM	0	33	17	0	0	16	0	0	1	0	33	0	0	0	0	0	100
7:30 PM	0	24	7	0	0	21	0	0	1	0	36	0	0	0	0	0	89
7:45 PM	0	35	11	0	1	14	0	0	1	0	38	0	0	0	0	0	100
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	611	226	0	5	295	0	0	20	1	605	0	0	0	0	0	1763
APPROACH %'s :	0.00%	73.00%	27.00%	0.00%	1.67%	98.33%	0.00%	0.00%	3.19%	0.16%	96.65%	0.00%					
PEAK HR :	**05:15 PM - 06:15 PM**																TOTAL
PEAK HR VOL :	0	168	71	0	3	78	0	0	8	0	152	0	0	0	0	0	480
PEAK HR FACTOR :	0.000	0.894	0.845	0.000	0.250	0.848	0.000	0.000	0.667	0.000	0.792	0.000	0.000	0.000	0.000	0.000	0.916
		0.892				0.810				0.784							

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd & Hard Rock North Dwy
City: Wheatland
Control: 1-Way Stop (WB)

Project ID: 20-070200-002
Date: 11/20/2020

Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				Hard Rock North Dwy				Hard Rock North Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	1	2	0	0	0	0	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	48	1	0	24	29	0	0	0	0	0	0	5	0	30	0	137
4:15 PM	0	49	3	0	19	31	0	0	0	0	0	0	4	0	14	0	120
4:30 PM	0	64	3	0	27	26	0	0	0	0	0	0	8	0	15	0	143
4:45 PM	0	34	2	0	28	42	0	0	0	0	0	0	5	0	21	0	132
5:00 PM	0	45	5	0	17	33	0	0	0	0	0	0	3	0	28	0	131
5:15 PM	0	41	8	0	23	37	0	1	0	0	0	0	5	0	32	0	147
5:30 PM	0	48	15	0	47	30	0	0	0	0	0	0	1	0	11	0	152
5:45 PM	0	30	10	0	34	34	0	0	0	0	0	0	13	0	23	0	144
6:00 PM	0	29	1	0	31	27	0	0	0	0	0	0	4	0	27	0	119
6:15 PM	0	33	2	0	17	17	0	0	0	0	0	0	7	0	25	0	101
6:30 PM	0	20	4	0	44	21	0	0	0	0	0	0	3	0	31	0	123
6:45 PM	0	24	3	0	27	24	0	0	0	0	0	0	3	0	18	0	99
7:00 PM	0	11	1	0	40	13	0	0	0	0	0	0	4	0	29	0	98
7:15 PM	0	21	2	0	23	9	0	0	0	0	0	0	2	0	23	0	80
7:30 PM	0	17	11	0	38	15	0	0	0	0	0	0	3	0	28	0	112
7:45 PM	0	18	3	0	35	13	0	0	0	0	0	0	3	0	24	0	96
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	532	74	0	474	401	0	1	0	0	0	0	73	0	379	0	1934
APPROACH %'s :	0.00%	87.79%	12.21%	0.00%	54.11%	45.78%	0.00%	0.11%					16.15%	0.00%	83.85%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	0	164	38	0	121	134	0	1	0	0	0	0	22	0	94	0	574
PEAK HR FACTOR :	0.000	0.854	0.633	0.000	0.644	0.905	0.000	0.250	0.000	0.000	0.000	0.000	0.423	0.000	0.734	0.000	0.944
		0.802				0.831								0.784			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd & Hard Rock North Dwy
City: Wheatland
Control: 1-Way Stop (WB)

Project ID: 20-070200-002
Date: 11/21/2020

Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				Hard Rock North Dwy				Hard Rock North Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	1	2	0	0	0	0	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	30	0	0	33	23	0	0	0	0	0	0	9	0	29	0	124
4:15 PM	0	28	2	0	44	23	0	0	0	0	0	0	4	0	34	0	135
4:30 PM	0	31	0	0	32	25	0	0	0	0	0	0	2	0	26	0	116
4:45 PM	0	28	6	0	34	18	0	0	0	0	0	0	7	0	25	0	118
5:00 PM	0	20	5	0	40	25	0	0	0	0	0	0	2	0	27	0	119
5:15 PM	0	25	7	1	30	10	0	0	0	0	0	0	5	0	42	0	120
5:30 PM	0	36	16	0	35	27	0	0	0	0	0	0	0	0	27	0	141
5:45 PM	0	25	6	0	55	16	0	0	0	0	0	0	6	0	27	0	135
6:00 PM	0	19	0	0	35	20	0	0	0	0	0	0	13	0	34	1	122
6:15 PM	0	16	1	0	28	28	0	0	0	0	0	0	9	0	21	0	103
6:30 PM	0	24	2	0	37	25	0	0	0	0	0	0	8	0	30	0	126
6:45 PM	0	27	4	0	35	28	0	0	0	0	0	0	3	0	20	0	117
7:00 PM	0	18	3	0	26	14	0	0	0	0	0	0	5	0	37	0	103
7:15 PM	0	25	6	0	30	15	0	0	0	0	0	0	2	0	22	0	100
7:30 PM	0	19	12	0	36	23	0	0	0	0	0	0	2	0	17	0	109
7:45 PM	0	19	3	0	39	15	0	0	0	0	0	0	5	0	28	0	109
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	390	73	1	569	335	0	0	0	0	0	0	82	0	446	1	1897
APPROACH %'s :	0.00%	84.05%	15.73%	0.22%	62.94%	37.06%	0.00%	0.00%					15.50%	0.00%	84.31%	0.19%	
PEAK HR :	05:15 PM - 06:15 PM																TOTAL
PEAK HR VOL :	0	105	29	1	155	73	0	0	0	0	0	0	24	0	130	1	518
PEAK HR FACTOR :	0.000	0.729	0.453	0.250	0.705	0.676	0.000	0.000	0.000	0.000	0.000	0.000	0.462	0.000	0.774	0.250	0.918
		0.649				0.803								0.807			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd & Hard Rock South Dwy
City: Wheatland
Control: 1-Way Stop (WB)

Project ID: 20-070200-003
Date: 11/20/2020

Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				Hard Rock South Dwy				Hard Rock South Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	1	2	0	0	0	0	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	38	19	0	6	27	0	0	0	0	0	0	14	0	11	0	115
4:15 PM	0	43	19	0	9	27	0	0	0	0	0	0	9	0	9	0	116
4:30 PM	0	50	21	0	8	26	0	0	0	0	0	0	12	0	17	0	134
4:45 PM	0	30	22	0	9	37	0	0	0	0	0	0	9	0	7	0	114
5:00 PM	0	39	15	0	13	23	0	0	0	0	0	0	12	0	9	0	111
5:15 PM	0	36	19	0	14	28	0	0	0	0	0	0	9	0	14	0	120
5:30 PM	0	46	17	0	7	24	0	0	0	0	0	0	10	0	15	0	119
5:45 PM	0	33	21	0	14	33	0	0	0	0	0	0	10	0	7	0	118
6:00 PM	0	23	17	0	8	23	0	0	0	0	0	0	9	0	9	0	89
6:15 PM	0	18	22	0	9	15	0	0	0	0	0	0	9	0	16	0	89
6:30 PM	0	14	12	0	7	16	0	0	0	0	0	0	12	0	11	0	72
6:45 PM	0	12	21	0	14	13	0	0	0	0	0	0	6	0	17	0	83
7:00 PM	0	5	21	0	9	8	0	0	0	0	0	0	9	0	5	0	57
7:15 PM	0	9	29	0	6	5	0	0	0	0	0	0	11	0	14	0	74
7:30 PM	0	18	24	0	8	10	0	0	0	0	0	0	13	0	12	0	85
7:45 PM	0	11	23	0	10	6	0	0	0	0	0	0	10	0	9	0	69
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	425	322	0	151	321	0	0	0	0	0	0	164	0	182	0	1565
APPROACH %'s :	0.00%	56.89%	43.11%	0.00%	31.99%	68.01%	0.00%	0.00%					47.40%	0.00%	52.60%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	161	81	0	32	117	0	0	0	0	0	0	44	0	44	0	479
PEAK HR FACTOR :	0.000	0.805	0.920	0.000	0.889	0.791	0.000	0.000	0.000	0.000	0.000	0.000	0.786	0.000	0.647	0.000	0.894
		0.852				0.810								0.759			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd & Hard Rock South Dwy
City: Wheatland
Control: 1-Way Stop (WB)

Project ID: 20-070200-003
Date: 11/21/2020

Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				Hard Rock South Dwy				Hard Rock South Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	1	2	0	0	0	0	0	0	0	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	10	40	0	11	21	0	0	0	0	0	0	20	0	19	0	121
4:15 PM	0	17	20	0	14	13	0	0	0	0	0	0	9	0	14	0	87
4:30 PM	0	11	24	0	13	16	0	0	0	0	0	0	18	0	18	0	100
4:45 PM	0	24	32	0	10	14	0	0	0	0	0	0	17	0	10	0	107
5:00 PM	0	16	38	0	15	11	0	0	0	0	0	0	14	0	8	0	102
5:15 PM	0	19	32	0	7	11	0	0	0	0	0	0	21	0	16	0	106
5:30 PM	0	29	29	0	12	14	0	0	0	0	0	0	22	0	22	0	128
5:45 PM	0	19	28	0	15	8	0	0	0	0	0	0	14	0	13	0	97
6:00 PM	0	7	23	0	9	25	0	0	0	0	0	0	25	0	11	0	100
6:15 PM	0	5	27	0	15	22	0	0	0	0	0	0	26	0	13	0	108
6:30 PM	0	7	28	0	18	15	0	0	0	0	0	0	16	0	19	0	103
6:45 PM	0	12	20	0	23	8	0	0	0	0	0	0	20	0	18	0	101
7:00 PM	0	7	28	0	9	10	0	0	0	0	0	0	12	0	14	0	80
7:15 PM	0	15	38	0	9	8	0	0	0	0	0	0	19	0	17	0	106
7:30 PM	0	14	17	0	17	7	0	0	0	0	0	0	20	0	16	0	91
7:45 PM	0	7	25	0	11	8	0	0	0	0	0	0	20	0	14	0	85
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	219	449	0	208	211	0	0	0	0	0	0	293	0	242	0	1622
APPROACH %'s :	0.00%	32.78%	67.22%	0.00%	49.64%	50.36%	0.00%	0.00%					54.77%	0.00%	45.23%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	88	131	0	44	50	0	0	0	0	0	0	74	0	56	0	443
PEAK HR FACTOR :	0.000	0.759	0.862	0.000	0.733	0.893	0.000	0.000	0.000	0.000	0.000	0.000	0.841	0.000	0.636	0.000	0.865
		0.944				0.904								0.739			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd/Plumas Arboga Rd & Forty Mile Rd
City: Wheatland
Control: 1-Way Stop (WB)

Project ID: 20-070200-004
Date: 11/20/2020

Total

NS/EW Streets:	Forty Mile Rd/Plumas Arboga Rd				Forty Mile Rd/Plumas Arboga Rd				Forty Mile Rd				Forty Mile Rd				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	1	1	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	20	9	0	10	29	0	0	0	0	0	0	20	0	39	0	127
4:15 PM	0	18	16	0	14	24	0	0	0	0	0	0	17	0	50	0	139
4:30 PM	0	19	9	0	7	30	0	0	0	0	0	0	23	0	48	0	136
4:45 PM	0	19	13	0	13	33	0	0	0	0	0	0	22	0	31	0	131
5:00 PM	0	18	10	0	10	21	0	0	0	0	0	0	25	0	37	0	121
5:15 PM	0	22	8	0	8	34	0	0	0	0	0	0	27	0	32	0	131
5:30 PM	0	31	11	0	9	22	0	0	0	0	0	0	24	0	30	0	127
5:45 PM	0	25	10	0	13	32	0	0	0	0	0	0	22	0	26	0	128
6:00 PM	0	16	15	0	8	24	0	0	0	0	0	0	29	0	22	0	114
6:15 PM	0	23	7	0	8	19	0	0	0	0	0	0	13	0	12	0	82
6:30 PM	0	18	8	0	6	16	0	0	0	0	0	0	17	0	9	0	74
6:45 PM	0	25	5	0	4	17	0	0	0	0	0	0	17	0	8	0	76
7:00 PM	0	20	4	0	6	12	0	0	0	0	0	0	15	0	6	0	63
7:15 PM	0	31	4	0	1	14	0	0	0	0	0	0	9	0	6	0	65
7:30 PM	0	35	4	0	5	21	0	0	0	0	0	0	12	0	6	0	83
7:45 PM	0	27	3	0	2	10	0	0	0	0	0	0	12	0	3	0	57
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	367	136	0	124	358	0	0	0	0	0	0	304	0	365	0	1654
APPROACH %'s :	0.00%	72.96%	27.04%	0.00%	25.73%	74.27%	0.00%	0.00%					45.44%	0.00%	54.56%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	76	47	0	44	116	0	0	0	0	0	0	82	0	168	0	533
PEAK HR FACTOR :	0.000	0.950	0.734	0.000	0.786	0.879	0.000	0.000	0.000	0.000	0.000	0.000	0.891	0.000	0.840	0.000	0.959
		0.904				0.870								0.880			

National Data & Surveying Services

Intersection Turning Movement Count

Location: Forty Mile Rd/Plumas Arboga Rd & Forty Mile Rd
City: Wheatland
Control: 1-Way Stop (WB)

Project ID: 20-070200-004
Date: 11/21/2020

Total

NS/EW Streets:	Forty Mile Rd/Plumas Arboga Rd				Forty Mile Rd/Plumas Arboga Rd				Forty Mile Rd				Forty Mile Rd				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	1	1	0	0	0	0	0	0	1	0	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	36	15	0	9	31	0	0	0	0	0	0	17	0	7	0	115
4:15 PM	0	24	11	0	7	18	0	0	0	0	0	0	11	0	14	0	85
4:30 PM	0	24	10	0	9	23	0	0	0	0	0	0	18	0	13	0	97
4:45 PM	0	38	9	0	4	26	0	0	0	0	0	0	20	0	18	0	115
5:00 PM	0	42	8	0	5	22	0	0	0	0	0	0	17	0	9	0	103
5:15 PM	0	41	9	0	2	26	0	0	0	0	0	0	20	0	13	0	111
5:30 PM	0	41	8	0	3	34	0	0	0	0	0	0	24	0	16	0	126
5:45 PM	0	30	6	0	4	19	0	0	0	0	0	0	17	0	11	0	87
6:00 PM	0	30	8	0	7	38	0	0	0	0	0	0	17	0	4	0	104
6:15 PM	0	23	4	0	7	45	0	0	0	0	0	0	15	0	3	0	97
6:30 PM	0	32	7	0	3	26	0	0	0	0	0	0	9	0	7	0	84
6:45 PM	0	21	2	0	4	21	0	0	0	0	0	0	14	0	8	0	70
7:00 PM	0	30	7	0	8	17	0	0	0	0	0	0	10	0	5	0	77
7:15 PM	0	46	2	0	4	24	0	0	0	0	0	0	8	0	6	0	90
7:30 PM	0	24	5	0	0	24	0	0	0	0	0	0	7	0	6	0	66
7:45 PM	0	25	1	0	2	25	0	0	0	0	0	0	6	0	6	0	65
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	507	112	0	78	419	0	0	0	0	0	0	230	0	146	0	1492
APPROACH %'s :	0.00%	81.91%	18.09%	0.00%	15.69%	84.31%	0.00%	0.00%					61.17%	0.00%	38.83%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	162	34	0	14	108	0	0	0	0	0	0	81	0	56	0	455
PEAK HR FACTOR :	0.000	0.964	0.944	0.000	0.700	0.794	0.000	0.000	0.000	0.000	0.000	0.000	0.844	0.000	0.778	0.000	0.903
		0.980				0.824								0.856			

Prepared by National Data & Surveying Services

Vehicle Occupancy Study

Location: Hard Rock Hotel and Casino Parking Lot
City: Wheatland, CA

Date: 11/20/2020
Day: Friday

Time	Vehicle with Driver Only	Vehicle with 2 People	Vehicle with 3+ People
4:00:00 PM	9	16	1
4:15:00 PM	15	10	0
4:30:00 PM	24	6	0
4:45:00 PM	17	14	0
Total	65	46	1

National Data & Surveying Services Intersection Turning Movement Count

Location: Forty Mile Rd & SR-65 SB ramps
City: Olivehurst
Control: 1-Way Stop(EB)

Project ID: 21-070011-001
Date: 2/4/2021

Data - Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				SR-65 SB ramps				SR-65 SB ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0.5	0.5	0	0	0	0.5	0.5	0	0	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	63	15	0	0	27	0	0	2	0	29	0	0	0	0	0	136
4:15 PM	0	53	14	0	1	30	0	0	3	0	37	0	0	0	0	0	138
4:30 PM	0	61	4	0	1	28	0	0	5	0	30	0	0	0	0	0	129
4:45 PM	0	62	12	0	0	40	0	0	2	0	47	0	0	0	0	0	163
5:00 PM	0	55	19	0	3	38	0	0	19	1	25	0	0	0	0	0	160
5:15 PM	0	40	8	0	2	37	0	0	2	1	38	0	0	0	0	0	128
5:30 PM	0	52	17	0	3	23	0	0	5	0	40	0	0	0	0	0	140
5:45 PM	0	50	8	0	0	31	0	0	4	0	45	0	0	0	0	0	138
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	436	97	0	10	254	0	0	42	2	291	0	0	0	0	0	1132
APPROACH %'s :	0.00%	81.80%	18.20%	0.00%	3.79%	96.21%	0.00%	0.00%	12.54%	0.60%	86.87%	0.00%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	209	56	0	8	138	0	0	28	2	150	0	0	0	0	0	591
PEAK HR FACTOR :	0.000	0.843	0.737	0.000	0.667	0.863	0.000	0.000	0.368	0.500	0.798	0.000	0.000	0.000	0.000	0.000	0.906
	0.895				0.890				0.918								

National Data & Surveying Services Intersection Turning Movement Count

Location: Forty Mile Rd & Hard Rock Hotel & Casino North Dwy
City: Marysville
Control: 1-Way Stop(WB)

Project ID: 21-070011-002
Date: 2/4/2021

Data - Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				Hard Rock Hotel & Casino North Dwy				Hard Rock Hotel & Casino North Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	2 NT	1 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	1 WL	0 WT	1 WR	0 WU	TOTAL
4:00 PM	0	38	1	0	18	37	0	0	0	0	0	0	13	0	38	0	145
4:15 PM	0	42	4	0	35	33	0	0	0	0	0	0	4	0	19	0	137
4:30 PM	0	48	2	0	21	35	0	0	0	0	0	0	4	0	15	0	125
4:45 PM	0	52	4	0	33	54	0	0	0	0	0	0	5	0	24	0	172
5:00 PM	0	31	4	0	25	38	0	0	0	0	0	0	6	0	39	0	143
5:15 PM	0	24	8	0	35	38	0	0	0	0	0	0	3	0	21	0	129
5:30 PM	0	38	10	0	36	26	0	0	0	0	0	0	2	0	35	0	147
5:45 PM	0	33	5	0	35	40	0	0	0	0	0	0	9	0	26	0	148
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	306	38	0	238	301	0	0	0	0	0	0	46	0	217	0	1146
APPROACH %'s :	0.00%	88.95%	11.05%	0.00%	44.16%	55.84%	0.00%	0.00%					17.49%	0.00%	82.51%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	0	145	26	0	129	156	0	0	0	0	0	0	16	0	119	0	591
PEAK HR FACTOR :	0.000	0.697	0.650	0.000	0.896	0.722	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.763	0.000	0.859
	0.763				0.819								0.750				

National Data & Surveying Services Intersection Turning Movement Count

Location: Forty Mile Rd & Hard Rock Hotel & Casino South Dwy
City: Marysville
Control: No Control

Project ID: 21-070011-003
Date: 2/4/2021

Data - Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				Hard Rock Hotel & Casino South Dwy				Hard Rock Hotel & Casino South Dwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	2 NT	1 NR	0 NU	1 SL	2 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	TOTAL
4:00 PM	0	30	15	0	13	38	0	0	0	0	0	0	12	0	9	0	117
4:15 PM	0	34	7	0	5	31	0	0	0	0	0	0	14	0	11	0	102
4:30 PM	0	38	22	0	5	35	0	0	0	0	0	0	13	0	13	0	126
4:45 PM	0	43	21	0	18	41	0	0	0	0	0	0	11	0	14	0	148
5:00 PM	0	21	15	0	7	37	0	0	0	0	0	0	10	0	12	0	102
5:15 PM	0	19	22	0	5	36	0	0	0	0	0	0	7	0	14	0	103
5:30 PM	0	38	18	0	9	19	0	0	0	0	0	0	7	0	9	0	100
5:45 PM	0	24	16	0	11	38	0	0	0	0	0	0	14	0	14	0	117
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	247	136	0	73	275	0	0	0	0	0	0	88	0	96	0	915
APPROACH %'s :	0.00%	64.49%	35.51%	0.00%	20.98%	79.02%	0.00%	0.00%					47.83%	0.00%	52.17%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	145	65	0	41	145	0	0	0	0	0	0	50	0	47	0	493
PEAK HR FACTOR :	0.000	0.843	0.739	0.000	0.569	0.884	0.000	0.000	0.000	0.000	0.000	0.000	0.893	0.000	0.839	0.000	0.833
	0.820				0.788								0.933				

National Data & Surveying Services Intersection Turning Movement Count

Location: Forty Mile Rd/Plumas Arboga Rd & Forty Mile Rd
City: Wheatland
Control: 1-Way Stop(WB)

Project ID: 21-070011-004
Date: 2/4/2021

Data - Total

NS/EW Streets:	Forty Mile Rd/Plumas Arboga Rd				Forty Mile Rd/Plumas Arboga Rd				Forty Mile Rd				Forty Mile Rd				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	1 NT	1 NR	0 NU	1 SL	1 ST	0 SR	0 SU	0 EL	0 ET	0 ER	0 EU	1 WL	0 WT	1 WR	0 WU	TOTAL
4:00 PM	0	17	8	0	14	34	0	0	0	0	0	0	19	0	27	0	119
4:15 PM	0	13	9	0	8	37	0	0	0	0	0	0	19	0	24	0	110
4:30 PM	0	23	8	0	8	40	0	0	0	0	0	0	28	0	43	0	150
4:45 PM	0	30	7	0	10	37	0	0	0	0	0	0	16	0	33	0	133
5:00 PM	0	15	11	0	12	37	0	0	0	0	0	0	22	0	16	0	113
5:15 PM	0	30	10	0	11	35	0	0	0	0	0	0	26	0	14	0	126
5:30 PM	0	28	11	0	8	20	0	0	0	0	0	0	30	0	27	0	124
5:45 PM	0	13	3	0	6	37	0	0	0	0	0	0	18	0	24	0	101
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	169	67	0	77	277	0	0	0	0	0	0	178	0	208	0	976
APPROACH %'s :	0.00%	71.61%	28.39%	0.00%	21.75%	78.25%	0.00%	0.00%					46.11%	0.00%	53.89%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	98	36	0	41	149	0	0	0	0	0	0	92	0	106	0	522
PEAK HR FACTOR :	0.000	0.817	0.818	0.000	0.854	0.931	0.000	0.000	0.000	0.000	0.000	0.000	0.821	0.000	0.616	0.000	0.870
	0.838				0.969								0.697				

National Data & Surveying Services Intersection Turning Movement Count

Location: Forty Mile Rd & SR-65 NB Ramps
City: Marysville
Control: 1-Way Stop(WB)

Project ID: 21-070011-005
Date: 2/4/2021

Data - Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				SR-65 NB Ramps				SR-65 NB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0.5	0.5	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	51	12	0	0	0	15	5	0	0	0	0	0	14	0	1	0	98
4:15 PM	45	13	0	0	0	20	4	0	0	0	0	0	9	0	1	0	92
4:30 PM	49	14	0	0	0	21	8	0	0	0	0	0	8	0	1	0	101
4:45 PM	51	12	0	0	0	19	14	0	0	0	0	0	21	0	2	0	119
5:00 PM	51	25	0	0	0	28	4	0	0	0	0	0	16	0	0	0	124
5:15 PM	37	7	0	0	0	23	6	0	0	0	0	0	13	0	0	0	86
5:30 PM	42	15	0	0	0	13	8	0	0	0	0	0	15	0	0	0	93
5:45 PM	47	7	0	0	0	16	4	0	0	0	0	0	13	0	0	0	87
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	373	105	0	0	0	155	53	0	0	0	0	0	109	0	5	0	800
APPROACH %'s :	78.03%	21.97%	0.00%	0.00%	0.00%	74.52%	25.48%	0.00%					95.61%	0.00%	4.39%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	196	64	0	0	0	88	30	0	0	0	0	0	54	0	4	0	436
PEAK HR FACTOR :	0.961	0.640	0.000	0.000	0.000	0.786	0.536	0.000	0.000	0.000	0.000	0.000	0.643	0.000	0.500	0.000	0.879
	0.855				0.894								0.630				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-65 SB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(SB)

Project ID: 21-070011-006
Date: 2/4/2021

Data - Total

NS/EW Streets:	SR-65 SB Ramps				SR-65 SB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	4	0	27	0	0	15	21	0	1	71	0	0	139
4:15 PM	0	0	0	0	2	0	23	0	0	23	19	0	2	51	0	0	120
4:30 PM	0	0	0	0	3	0	31	0	0	19	22	0	1	68	0	1	145
4:45 PM	0	0	0	0	4	0	24	0	0	14	30	0	0	84	0	0	156
5:00 PM	0	0	0	0	4	0	24	0	0	16	21	0	3	61	0	0	129
5:15 PM	0	0	0	0	3	0	29	0	0	10	13	0	1	57	0	0	113
5:30 PM	0	0	0	0	2	0	14	0	0	21	17	0	0	53	0	0	107
5:45 PM	0	0	0	0	1	0	23	0	0	18	17	0	0	52	0	0	111
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	23	0	195	0	0	136	160	0	8	497	0	1	1020
APPROACH %'s :					10.55%	0.00%	89.45%	0.00%	0.00%	45.95%	54.05%	0.00%	1.58%	98.22%	0.00%	0.20%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	13	0	105	0	0	71	92	0	4	274	0	1	560
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.813	0.000	0.847	0.000	0.000	0.772	0.767	0.000	0.500	0.815	0.000	0.250	0.897
					0.868				0.926				0.830				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-65 NB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(NB)

Project ID: 21-070011-007
Date: 2/4/2021

Data - Total

NS/EW Streets:	SR-65 NB Ramps				SR-65 NB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	53	0	0	0	0	0	0	0	8	10	0	0	0	19	4	0	94
4:15 PM	30	1	1	0	0	0	0	0	12	11	0	0	0	23	10	0	88
4:30 PM	53	0	1	0	0	0	0	0	12	12	0	0	0	18	6	0	102
4:45 PM	50	0	0	0	0	0	0	0	12	8	0	0	0	33	5	0	108
5:00 PM	44	0	0	0	0	0	0	0	13	7	0	0	0	21	6	0	91
5:15 PM	37	0	1	0	0	0	0	0	6	7	0	0	0	18	2	0	71
5:30 PM	40	1	0	0	0	0	0	0	12	10	0	0	0	15	7	0	85
5:45 PM	40	0	1	0	0	0	0	0	13	7	0	0	0	11	4	0	76
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	347	2	4	0	0	0	0	0	88	72	0	0	0	158	44	0	715
APPROACH %'s :	98.30%	0.57%	1.13%	0.00%					55.00%	45.00%	0.00%	0.00%	0.00%	78.22%	21.78%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	186	1	2	0	0	0	0	0	44	41	0	0	0	93	25	0	392
PEAK HR FACTOR :	0.877	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.917	0.854	0.000	0.000	0.000	0.705	0.625	0.000	0.907
	0.875								0.885				0.776				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-70 SB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(SB)

Project ID: 21-070011-008
Date: 2/4/2021

Data - Total

NS/EW Streets:	SR-70 SB Ramps				SR-70 SB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0.5	0.5	1	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	14	0	31	0	0	88	29	0	18	106	0	0	286
4:15 PM	0	0	0	0	15	0	46	0	0	79	20	0	12	98	0	0	270
4:30 PM	0	0	0	0	9	0	34	0	0	86	22	0	11	115	0	0	277
4:45 PM	0	0	0	0	11	1	40	0	0	72	17	0	23	105	0	0	269
5:00 PM	0	0	0	0	13	1	42	0	0	88	19	0	17	96	0	0	276
5:15 PM	0	0	0	0	10	0	46	0	0	78	23	0	10	93	0	0	260
5:30 PM	0	0	0	0	10	0	52	0	0	92	23	0	14	96	0	0	287
5:45 PM	0	0	0	0	11	0	44	0	0	85	14	0	8	90	0	0	252
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	93	2	335	0	0	668	167	0	113	799	0	0	2177
APPROACH %'s :					21.63%	0.47%	77.91%	0.00%	0.00%	80.00%	20.00%	0.00%	12.39%	87.61%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	0	0	0	49	1	151	0	0	325	88	0	64	424	0	0	1102
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.817	0.250	0.821	0.000	0.000	0.923	0.759	0.000	0.696	0.922	0.000	0.000	0.963
							0.824				0.882				0.953		

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-70 NB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(NB)

Project ID: 21-070011-009
Date: 2/4/2021

Data - Total

NS/EW Streets:	SR-70 NB Ramps				SR-70 NB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	36	0	11	0	0	0	0	0	29	71	0	0	0	88	16	0	251
4:15 PM	52	0	9	0	0	0	0	0	37	58	0	0	0	57	19	0	232
4:30 PM	49	0	16	0	0	0	0	0	41	55	0	0	0	78	13	0	252
4:45 PM	29	0	13	0	0	0	0	0	36	46	0	0	0	98	13	0	235
5:00 PM	34	0	5	0	0	0	0	0	42	58	0	0	0	78	10	0	227
5:15 PM	29	2	10	0	0	0	0	0	39	50	0	0	0	76	18	0	224
5:30 PM	32	0	9	0	0	0	0	0	41	65	0	0	0	78	10	0	235
5:45 PM	36	0	8	0	0	0	0	0	40	56	0	0	0	63	18	0	221
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	297	2	81	0	0	0	0	0	305	459	0	0	0	616	117	0	1877
APPROACH %'s :	78.16%	0.53%	21.32%	0.00%					39.92%	60.08%	0.00%	0.00%	0.00%	84.04%	15.96%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	166	0	49	0	0	0	0	0	143	230	0	0	0	321	61	0	970
PEAK HR FACTOR :	0.798	0.000	0.766	0.000	0.000	0.000	0.000	0.000	0.872	0.810	0.000	0.000	0.000	0.819	0.803	0.000	0.962
	0.827								0.933				0.860				

National Data & Surveying Services Intersection Turning Movement Count

Location: Main St & SR-65
City: Wheatland
Control: Signalized

Project ID: 21-070011-010
Date: 2/4/2021

Data - Total

NS/EW Streets:	Main St				Main St				SR-65				SR-65				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.3	0.3	0.3	0	0.3	0.3	0.3	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	1	14	5	0	37	1	11	0	9	200	0	0	3	235	2	0	518
4:15 PM	1	9	2	0	64	2	14	0	7	174	0	0	3	211	0	0	487
4:30 PM	0	5	2	0	46	2	9	0	5	225	0	0	4	242	1	0	541
4:45 PM	1	3	6	0	61	1	6	0	13	199	0	0	1	231	2	0	524
5:00 PM	0	4	4	0	63	0	11	0	15	194	0	0	2	206	1	0	500
5:15 PM	0	2	1	0	46	2	14	0	8	190	0	0	1	228	1	0	493
5:30 PM	1	0	2	0	36	4	18	0	17	205	1	0	1	211	4	0	500
5:45 PM	1	7	3	0	24	2	22	0	9	180	0	0	1	239	4	0	492
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	5	44	25	0	377	14	105	0	83	1567	1	0	16	1803	15	0	4055
APPROACH %'s :	6.76%	59.46%	33.78%	0.00%	76.01%	2.82%	21.17%	0.00%	5.03%	94.91%	0.06%	0.00%	0.87%	98.31%	0.82%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	3	31	15	0	208	6	40	0	34	798	0	0	11	919	5	0	2070
PEAK HR FACTOR :	0.750	0.554	0.625	0.000	0.813	0.750	0.714	0.000	0.654	0.887	0.000	0.000	0.688	0.949	0.625	0.000	0.957
	0.613				0.794				0.904				0.946				

National Data & Surveying Services Intersection Turning Movement Count

Location: 1st St & SR-65
City: Wheatland
Control: Signalized

Project ID: 21-070011-011
Date: 2/4/2021

Data - Total

NS/EW Streets:	1st St				1st St				SR-65				SR-65				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	1 ET	0 ER	0 EU	1 WL	1 WT	0 WR	0 WU	TOTAL
4:00 PM	17	0	15	0	2	2	3	0	0	222	5	0	5	252	2	0	525
4:15 PM	5	1	11	0	0	3	3	0	0	198	2	0	8	237	0	0	468
4:30 PM	3	0	12	0	1	1	8	0	0	238	0	0	2	254	0	0	519
4:45 PM	6	0	17	0	2	2	2	0	1	208	4	0	4	248	1	0	495
5:00 PM	9	0	6	0	2	0	3	0	0	223	2	0	6	224	0	0	475
5:15 PM	6	1	5	0	1	0	2	0	0	209	3	0	0	243	0	0	470
5:30 PM	8	0	7	0	2	0	4	0	1	240	0	0	5	228	0	0	495
5:45 PM	7	1	11	0	1	0	2	0	0	199	2	0	0	263	0	0	486
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	61	3	84	0	11	8	27	0	2	1737	18	0	30	1949	3	0	3933
APPROACH %'s :	41.22%	2.03%	56.76%	0.00%	23.91%	17.39%	58.70%	0.00%	0.11%	98.86%	1.02%	0.00%	1.51%	98.34%	0.15%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	31	1	55	0	5	8	16	0	1	866	11	0	19	991	3	0	2007
PEAK HR FACTOR :	0.456	0.250	0.809	0.000	0.625	0.667	0.500	0.000	0.250	0.910	0.550	0.000	0.594	0.975	0.375	0.000	0.956
	0.680				0.725				0.922				0.978				

National Data & Surveying Services Intersection Turning Movement Count

Location: Forty Mile Rd & SR-65 NB Ramps
City: Marysville
Control: 1-Way Stop (WB)

Project ID: 21-070011-005
Date: 2/5/2021

Data - Total

NS/EW Streets:	Forty Mile Rd				Forty Mile Rd				SR-65 NB Ramps				SR-65 NB Ramps				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	0.5	0.5	0	0	0	0	0	0	0.5	0.5	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	55	14	0	0	0	19	8	0	0	0	0	0	8	0	0	0	104
4:15 PM	45	15	0	0	0	16	6	0	0	0	0	0	11	1	0	0	94
4:30 PM	68	16	0	0	0	11	6	0	0	0	0	0	9	0	1	0	111
4:45 PM	65	7	0	0	0	22	13	0	0	0	0	0	10	0	1	0	118
5:00 PM	52	3	0	0	0	13	7	0	0	0	0	0	19	0	2	0	96
5:15 PM	55	7	0	0	0	14	8	0	0	0	0	0	23	0	0	0	107
5:30 PM	34	8	0	0	0	17	3	0	0	0	0	0	16	0	1	0	79
5:45 PM	42	6	0	0	0	6	4	0	0	0	0	0	14	0	1	0	73
6:00 PM	49	7	0	0	0	9	8	0	0	0	0	0	14	0	0	0	87
6:15 PM	56	3	0	0	0	4	6	0	0	0	0	0	18	0	1	0	88
6:30 PM	36	1	0	0	0	5	1	0	0	0	0	0	23	0	0	0	66
6:45 PM	34	7	0	0	0	8	2	0	0	0	0	0	18	0	1	0	70
7:00 PM	45	4	0	0	0	1	1	0	0	0	0	0	9	0	1	0	61
7:15 PM	40	4	0	0	0	5	2	0	0	0	0	0	15	0	0	0	66
7:30 PM	41	2	0	0	0	1	3	0	0	0	0	0	19	0	0	0	66
7:45 PM	37	4	0	0	0	2	1	0	0	0	0	0	21	0	2	0	67
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	754	108	0	0	0	153	79	0	0	0	0	0	247	1	11	0	1353
APPROACH %'s :	87.47%	12.53%	0.00%	0.00%	0.00%	65.95%	34.05%	0.00%					95.37%	0.39%	4.25%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	240	33	0	0	0	60	34	0	0	0	0	0	61	0	4	0	432
PEAK HR FACTOR :	0.882	0.516	0.000	0.000	0.000	0.682	0.654	0.000	0.000	0.000	0.000	0.000	0.663	0.000	0.500	0.000	0.915
	0.813				0.671								0.707				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-65 SB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(SB)

Project ID: 21-070011-006
Date: 2/5/2021

Data - Total

NS/EW Streets:	SR-65 SB Ramps				SR-65 SB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0	0.5	0.5	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	1	0	13	0	0	13	28	0	0	68	0	0	123
4:15 PM	0	0	0	0	5	0	20	0	0	19	20	0	1	59	0	0	124
4:30 PM	0	0	0	0	7	0	22	0	0	14	22	0	0	76	0	0	141
4:45 PM	0	0	0	0	2	0	16	0	0	18	28	0	1	68	0	0	133
5:00 PM	0	0	0	0	1	1	31	0	0	17	22	0	0	55	0	0	127
5:15 PM	0	0	0	0	3	0	23	0	0	20	27	0	0	45	0	0	118
5:30 PM	0	0	0	0	0	0	25	0	0	15	20	0	0	48	0	0	108
5:45 PM	0	0	0	0	4	1	24	0	0	6	24	0	0	50	0	0	109
6:00 PM	0	0	0	0	3	0	16	0	0	10	29	0	0	53	0	0	111
6:15 PM	0	0	0	0	4	0	12	0	0	10	16	0	0	46	0	0	88
6:30 PM	0	0	0	0	2	0	17	0	0	14	22	0	0	32	0	0	87
6:45 PM	0	0	0	0	2	0	18	0	0	11	17	0	0	37	0	0	85
7:00 PM	0	0	0	0	2	2	17	0	0	8	19	0	0	26	0	0	74
7:15 PM	0	0	0	0	0	1	17	0	0	13	11	0	0	22	0	0	64
7:30 PM	0	0	0	0	0	0	16	0	0	12	14	0	0	25	0	0	67
7:45 PM	0	0	0	0	0	1	23	0	0	9	16	0	1	24	0	0	74
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	36	6	310	0	0	209	335	0	3	734	0	0	1633
APPROACH %'s :					10.23%	1.70%	88.07%	0.00%	0.00%	38.42%	61.58%	0.00%	0.41%	99.59%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	15	1	89	0	0	68	92	0	2	258	0	0	525
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.536	0.250	0.718	0.000	0.000	0.895	0.821	0.000	0.500	0.849	0.000	0.000	0.931
					0.795				0.870				0.855				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-65 NB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(NB)

Project ID: 21-070011-007
Date: 2/5/2021

Data - Total

NS/EW Streets:	SR-65 NB Ramps				SR-65 NB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	56	2	0	0	0	0	0	0	9	6	0	0	0	13	8	0	94
4:15 PM	40	1	1	0	0	0	0	0	11	13	0	0	0	19	5	0	90
4:30 PM	46	0	0	0	0	0	0	0	8	12	0	0	0	30	3	0	99
4:45 PM	45	1	1	0	0	0	0	0	16	5	0	0	0	24	5	0	97
5:00 PM	43	0	0	0	0	0	0	0	11	6	0	0	0	14	7	0	81
5:15 PM	36	1	1	0	0	0	0	0	15	7	0	0	0	8	2	0	70
5:30 PM	34	0	1	0	0	0	0	0	12	5	0	0	0	13	6	0	71
5:45 PM	33	1	0	0	0	0	0	0	5	5	0	0	0	18	6	0	68
6:00 PM	40	0	0	0	0	0	0	0	10	3	0	0	0	14	6	0	73
6:15 PM	40	0	0	0	0	0	0	0	6	8	0	0	0	6	1	0	61
6:30 PM	27	0	0	0	0	0	0	0	12	4	0	0	0	3	4	0	50
6:45 PM	30	0	0	0	0	0	0	0	7	5	0	0	0	7	1	0	50
7:00 PM	24	0	0	0	0	0	0	0	5	6	0	0	0	5	0	0	40
7:15 PM	17	0	0	0	0	0	0	0	10	3	0	0	0	2	0	0	32
7:30 PM	23	0	0	0	0	0	0	0	9	3	0	0	0	2	1	0	38
7:45 PM	22	0	0	0	0	0	0	0	5	4	0	0	0	3	2	0	36
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	556	6	4	0	0	0	0	0	151	95	0	0	0	181	57	0	1050
APPROACH %'s :	98.23%	1.06%	0.71%	0.00%					61.38%	38.62%	0.00%	0.00%	0.00%	76.05%	23.95%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	187	4	2	0	0	0	0	0	44	36	0	0	0	86	21	0	380
PEAK HR FACTOR :	0.835	0.500	0.500	0.000	0.000	0.000	0.000	0.000	0.688	0.692	0.000	0.000	0.000	0.717	0.656	0.000	0.960
	0.832								0.833				0.811				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-70 SB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(SB)

Project ID: 21-070011-008
Date: 2/5/2021

Data - Total

NS/EW Streets:	SR-70 SB Ramps				SR-70 SB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	0.5	0.5	1	0	0	1	1	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	7	0	41	0	0	86	26	0	8	110	0	0	278
4:15 PM	0	0	0	0	7	0	42	0	0	97	23	0	13	95	0	0	277
4:30 PM	0	0	0	0	10	0	47	0	0	90	18	0	13	98	0	0	276
4:45 PM	0	0	0	0	10	0	39	0	0	83	17	0	11	97	0	0	257
5:00 PM	0	0	0	0	16	0	46	0	0	101	24	0	14	90	0	0	291
5:15 PM	0	0	0	0	10	0	67	0	0	77	18	0	4	91	0	0	267
5:30 PM	0	0	0	0	16	0	42	0	0	80	26	0	10	78	0	0	252
5:45 PM	0	0	0	0	12	0	44	0	0	105	20	0	10	92	0	0	283
6:00 PM	0	0	0	0	11	0	37	0	0	92	20	0	5	99	0	0	264
6:15 PM	0	0	0	0	8	0	45	0	0	71	20	0	9	80	0	0	233
6:30 PM	0	0	0	0	12	0	37	0	0	81	18	0	5	72	0	0	225
6:45 PM	0	0	0	0	13	0	42	0	0	61	18	0	4	67	0	0	205
7:00 PM	0	0	0	0	17	0	35	0	0	81	16	0	1	62	0	0	212
7:15 PM	0	0	0	0	10	0	40	0	0	68	15	0	2	62	0	0	197
7:30 PM	0	0	0	0	6	0	34	0	0	76	15	0	3	49	0	0	183
7:45 PM	0	0	0	0	5	0	29	0	0	68	20	0	6	48	0	0	176
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	170	0	667	0	0	1317	314	0	118	1290	0	0	3876
APPROACH %'s :					20.31%	0.00%	79.69%	0.00%	0.00%	80.75%	19.25%	0.00%	8.38%	91.62%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	43	0	174	0	0	371	82	0	51	380	0	0	1101
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.672	0.000	0.926	0.000	0.000	0.918	0.854	0.000	0.911	0.969	0.000	0.000	0.946
					0.875				0.906				0.971				

National Data & Surveying Services Intersection Turning Movement Count

Location: SR-70 NB Ramps & McGowan Pkwy
City: Olivehurst
Control: 1-Way Stop(NB)

Project ID: 21-070011-009
Date: 2/5/2021

Data - Total

NS/EW Streets:	SR-70 NB Ramps				SR-70 NB Ramps				McGowan Pkwy				McGowan Pkwy				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0.5	0.5	0	0	0	0	0	0	1	0	0	0	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	36	0	13	0	0	0	0	0	33	58	0	0	0	84	8	0	232
4:15 PM	36	0	9	0	0	0	0	0	55	51	0	0	0	70	14	0	235
4:30 PM	33	1	6	0	0	0	0	0	39	61	0	0	0	82	20	0	242
4:45 PM	31	0	9	0	0	0	0	0	43	53	0	0	0	78	14	0	228
5:00 PM	24	0	6	0	0	0	0	0	49	67	0	0	0	77	14	0	237
5:15 PM	33	0	10	0	0	0	0	0	32	55	0	0	0	62	16	0	208
5:30 PM	28	0	10	0	0	0	0	0	29	65	0	0	0	60	20	0	212
5:45 PM	32	0	4	0	0	0	0	0	50	62	0	0	0	71	27	0	246
6:00 PM	40	1	6	0	0	0	0	0	49	62	0	0	0	63	12	0	233
6:15 PM	28	0	5	0	0	0	0	0	31	49	0	0	0	61	17	0	191
6:30 PM	23	0	5	0	0	0	0	0	38	53	0	0	0	53	13	0	185
6:45 PM	22	0	10	0	0	0	0	0	31	44	0	0	0	49	13	0	169
7:00 PM	17	0	13	0	0	0	0	0	38	57	0	0	0	45	13	0	183
7:15 PM	20	0	3	0	0	0	0	0	35	46	0	0	0	45	11	0	160
7:30 PM	12	0	6	0	0	0	0	0	37	44	0	0	0	41	10	0	150
7:45 PM	14	0	3	0	0	0	0	0	25	46	0	0	0	38	12	0	138
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	429	2	118	0	0	0	0	0	614	873	0	0	0	979	234	0	3249
APPROACH %'s :	78.14%	0.36%	21.49%	0.00%					41.29%	58.71%	0.00%	0.00%	0.00%	80.71%	19.29%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	124	1	30	0	0	0	0	0	186	232	0	0	0	307	62	0	942
PEAK HR FACTOR :	0.861	0.250	0.833	0.000	0.000	0.000	0.000	0.000	0.845	0.866	0.000	0.000	0.000	0.936	0.775	0.000	0.973
	0.861								0.901				0.904				

National Data & Surveying Services Intersection Turning Movement Count

Location: Main St & SR-65
City: Wheatland
Control: Signalized

Project ID: 21-070011-010
Date: 2/5/2021

Data - Total

NS/EW Streets:	Main St				Main St				SR-65				SR-65				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.3	0.3	0.3	0	0.3	0.3	0.3	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	6	2	0	30	0	8	0	10	196	0	0	3	239	1	0	495
4:15 PM	3	6	8	0	62	2	16	0	8	230	0	0	0	215	0	0	550
4:30 PM	1	7	1	0	35	1	10	0	2	232	0	0	0	246	2	0	537
4:45 PM	1	6	3	0	56	2	20	0	11	198	0	0	3	214	1	0	515
5:00 PM	1	4	3	0	60	2	20	0	15	203	1	0	4	202	2	0	517
5:15 PM	1	5	2	0	50	1	17	0	11	193	2	0	0	226	4	0	512
5:30 PM	0	1	7	0	44	2	21	0	13	191	1	0	1	220	0	0	501
5:45 PM	2	2	3	0	27	3	12	0	9	179	0	0	0	240	1	0	478
6:00 PM	0	3	0	0	23	0	15	0	12	173	1	0	4	241	5	0	477
6:15 PM	1	1	0	0	16	1	14	0	15	162	1	0	1	218	5	0	435
6:30 PM	1	0	0	0	20	1	13	0	17	129	0	0	1	197	7	0	386
6:45 PM	0	1	0	1	9	0	6	0	7	143	0	0	0	168	2	0	337
7:00 PM	1	0	0	0	9	1	11	0	5	88	1	0	1	159	6	0	282
7:15 PM	2	1	0	0	6	2	5	0	10	106	0	0	0	153	6	0	291
7:30 PM	0	1	0	0	8	1	7	0	10	91	1	0	0	160	6	0	285
7:45 PM	0	0	0	0	7	0	5	0	3	78	0	0	0	141	3	0	237
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	14	44	29	1	462	19	200	0	158	2592	8	0	18	3239	51	0	6835
APPROACH %'s :	15.91%	50.00%	32.95%	1.14%	67.84%	2.79%	29.37%	0.00%	5.73%	93.98%	0.29%	0.00%	0.54%	97.91%	1.54%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	6	23	15	0	213	7	66	0	36	863	1	0	7	877	5	0	2119
PEAK HR FACTOR :	0.500	0.821	0.469	0.000	0.859	0.875	0.825	0.000	0.600	0.930	0.250	0.000	0.438	0.891	0.625	0.000	0.963
	0.647				0.872				0.945				0.896				

National Data & Surveying Services Intersection Turning Movement Count

Location: 1st St & SR-65
City: Wheatland
Control: Signalized

Project ID: 21-070011-011
Date: 2/5/2021

Data - Total

NS/EW Streets:	1st St				1st St				SR-65				SR-65				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	1	1	0	0	1	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	15	1	10	0	0	0	6	0	4	225	1	0	3	245	0	0	510
4:15 PM	10	0	15	0	4	2	1	0	2	237	4	0	3	246	0	0	524
4:30 PM	3	2	11	0	1	0	5	0	2	239	3	0	2	252	0	0	520
4:45 PM	5	1	8	0	0	3	7	0	0	225	0	0	10	257	0	0	516
5:00 PM	9	0	13	0	0	1	2	0	0	231	1	0	7	226	1	0	491
5:15 PM	4	1	9	0	0	2	3	0	0	207	5	0	3	238	1	0	473
5:30 PM	10	0	8	0	0	1	2	0	1	225	1	0	2	257	0	0	507
5:45 PM	2	0	12	0	0	0	12	0	1	201	4	0	4	244	1	0	481
6:00 PM	4	1	8	1	0	3	4	0	1	202	4	0	1	261	0	0	490
6:15 PM	7	0	6	0	1	1	1	0	0	185	3	0	4	250	0	0	458
6:30 PM	3	0	6	0	1	0	3	0	0	152	3	0	0	215	1	0	384
6:45 PM	4	0	8	0	0	0	3	0	0	155	3	0	0	182	1	0	356
7:00 PM	0	1	6	0	0	0	3	0	0	105	6	0	1	168	0	0	290
7:15 PM	3	0	3	0	2	1	2	0	1	126	0	0	1	167	2	0	308
7:30 PM	1	1	4	0	2	0	2	0	2	100	1	0	3	161	1	0	278
7:45 PM	0	0	1	0	0	0	3	0	0	91	0	0	0	146	0	0	241
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	80	8	128	1	11	14	59	0	14	2906	39	0	44	3515	8	0	6827
APPROACH %'s :	36.87%	3.69%	58.99%	0.46%	13.10%	16.67%	70.24%	0.00%	0.47%	98.21%	1.32%	0.00%	1.23%	98.54%	0.22%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	33	4	44	0	5	5	19	0	8	926	8	0	18	1000	0	0	2070
PEAK HR FACTOR :	0.550	0.500	0.733	0.000	0.313	0.417	0.679	0.000	0.500	0.969	0.500	0.000	0.450	0.973	0.000	0.000	0.988
	0.779				0.725				0.965				0.953				

Attachment B
Analysis Worksheets

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	2	173	0	0	0	0	240	64	9	159	0
Future Vol, veh/h	32	2	173	0	0	0	0	240	64	9	159	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	37	50	80	100	100	100	89	84	74	67	86	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	4	216	0	0	0	0	286	86	13	185	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	540	583	185	-	0	0	372	0	0
Stage 1	211	211	-	-	-	-	-	-	-
Stage 2	329	372	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	503	424	857	0	-	-	1186	-	0
Stage 1	824	728	-	0	-	-	-	-	0
Stage 2	729	619	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	497	0	857	-	-	-	1186	-	-
Mov Cap-2 Maneuver	497	0	-	-	-	-	-	-	-
Stage 1	824	0	-	-	-	-	-	-	-
Stage 2	720	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	497	857	1186	-
HCM Lane V/C Ratio	-	-	0.182	0.252	0.011	-
HCM Control Delay (s)	-	-	13.8	10.6	8.1	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.7	1	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	137	167	30	148	179
Future Vol, veh/h	18	137	167	30	148	179
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	67	76	70	65	90	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	180	239	46	164	249

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	692	120	0	0	285	0
Stage 1	239	-	-	-	-	-
Stage 2	453	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	378	909	-	-	1274	-
Stage 1	778	-	-	-	-	-
Stage 2	607	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	329	909	-	-	1274	-
Mov Cap-2 Maneuver	427	-	-	-	-	-
Stage 1	778	-	-	-	-	-
Stage 2	529	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	427	909	1274	-
HCM Lane V/C Ratio	-	-	0.063	0.198	0.129	-
HCM Control Delay (s)	-	-	14	9.9	8.2	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.7	0.4	-

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	58	54	167	75	47	167
Future Vol, veh/h	58	54	167	75	47	167
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	84	84	74	57	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	64	199	101	82	190

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	458	100	0	0	300	0
Stage 1	199	-	-	-	-	-
Stage 2	259	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	531	936	-	-	1258	-
Stage 1	815	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	496	936	-	-	1258	-
Mov Cap-2 Maneuver	570	-	-	-	-	-
Stage 1	815	-	-	-	-	-
Stage 2	712	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	570	936	1258	-
HCM Lane V/C Ratio	-	-	0.114	0.069	0.066	-
HCM Control Delay (s)	-	-	12.1	9.1	8.1	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	0.2	-

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	122	113	41	47	171
Future Vol, veh/h	106	122	113	41	47	171
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	62	82	82	85	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	197	138	50	55	184

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	432	-	0	-	138	0
Stage 1	138	-	-	-	-	-
Stage 2	294	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	581	0	-	0	1446	-
Stage 1	889	0	-	0	-	-
Stage 2	756	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	559	-	-	-	1446	-
Mov Cap-2 Maneuver	559	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	727	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	559	-	1446	-
HCM Lane V/C Ratio	-	0.231	-	0.038	-
HCM Control Delay (s)	-	13.4	0	7.6	-
HCM Lane LOS	-	B	A	A	-
HCM 95th %tile Q(veh)	-	0.9	-	0.1	-

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	62	0	5	225	74	0	0	101	35
Future Vol, veh/h	0	0	0	62	0	5	225	74	0	0	101	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	64	92	50	96	64	92	92	79	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	97	0	10	234	116	0	0	128	65

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	745	777	116	193	0	-	-	-	0
Stage 1	584	584	-	-	-	-	-	-	-
Stage 2	161	193	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	382	328	936	1380	-	0	0	-	-
Stage 1	557	498	-	-	-	0	0	-	-
Stage 2	868	741	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	313	0	936	1380	-	-	-	-	-
Mov Cap-2 Maneuver	313	0	-	-	-	-	-	-	-
Stage 1	456	0	-	-	-	-	-	-	-
Stage 2	868	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.4	5.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1380	-	313	936	-	-
HCM Lane V/C Ratio	0.17	-	0.31	0.011	-	-
HCM Control Delay (s)	8.1	0	21.6	8.9	-	-
HCM Lane LOS	A	A	C	A	-	-
HCM 95th %tile Q(veh)	0.6	-	1.3	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	82	106	6	315	0	0	0	0	15	0	121
Future Vol, veh/h	0	82	106	6	315	0	0	0	0	15	0	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	77	77	50	81	92	92	92	92	81	92	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	106	138	12	389	0	0	0	0	19	0	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	244	0	0			588	657	389
Stage 1	-	-	-	-	-	-			413	413	-
Stage 2	-	-	-	-	-	-			175	244	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1322	-	0			471	385	659
Stage 1	0	-	-	-	-	0			668	594	-
Stage 2	0	-	-	-	-	0			855	704	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1322	-	-			465	0	659
Mov Cap-2 Maneuver	-	-	-	-	-	-			465	0	-
Stage 1	-	-	-	-	-	-			668	0	-
Stage 2	-	-	-	-	-	-			845	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1322	-	465	659
HCM Lane V/C Ratio	-	-	0.009	-	0.04	0.216
HCM Control Delay (s)	-	-	7.7	0	13.1	12
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.1	0.8

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	47	0	0	107	29	214	1	2	0	0	0
Future Vol, veh/h	51	47	0	0	107	29	214	1	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	92	92	70	62	88	25	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	55	0	0	153	47	243	4	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	200	0	-	-	-	0	342	365	55
Stage 1	-	-	-	-	-	-	165	165	-
Stage 2	-	-	-	-	-	-	177	200	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1372	-	0	0	-	-	654	563	1012
Stage 1	-	-	0	0	-	-	864	762	-
Stage 2	-	-	0	0	-	-	854	736	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1372	-	-	-	-	-	627	0	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	627	0	-
Stage 1	-	-	-	-	-	-	829	0	-
Stage 2	-	-	-	-	-	-	854	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.9	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	627	1012	1372	-	-	-
HCM Lane V/C Ratio	0.394	0.004	0.04	-	-	-
HCM Control Delay (s)	14.4	8.6	7.7	0	-	-
HCM Lane LOS	B	A	A	A	-	-
HCM 95th %tile Q(veh)	1.9	0	0.1	-	-	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	374	101	74	488	0	0	0	0	56	1	174
Future Vol, veh/h	0	374	101	74	488	0	0	0	0	56	1	174
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	76	70	92	92	92	92	92	82	25	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	407	133	106	530	0	0	0	0	68	4	212

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	407	0	0	1149	1149	530
Stage 1	-	-	-	-	-	-	742	742	-
Stage 2	-	-	-	-	-	-	407	407	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1152	-	0	219	198	549
Stage 1	0	-	0	-	-	0	471	422	-
Stage 2	0	-	0	-	-	0	672	597	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	-	-	-	1152	-	-	191	0	549
Mov Cap-2 Maneuver	-	-	-	-	-	-	191	0	-
Stage 1	-	-	-	-	-	-	471	0	-
Stage 2	-	-	-	-	-	-	585	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.4	20.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1152	-	191	549
HCM Lane V/C Ratio	-	0.092	-	0.378	0.387
HCM Control Delay (s)	-	8.4	0	34.9	15.6
HCM Lane LOS	-	A	A	D	C
HCM 95th %tile Q(veh)	-	0.3	-	1.6	1.8

Intersection	
Int Delay, s/veh	49.4

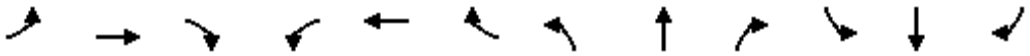
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	164	265	0	0	369	70	191	0	56	0	0	0
Future Vol, veh/h	164	265	0	0	369	70	191	0	56	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	345	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	81	92	92	82	80	80	92	77	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	189	327	0	0	450	88	239	0	73	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	450	0	-	-	-	0	1155	1155	327
Stage 1	-	-	-	-	-	-	705	705	-
Stage 2	-	-	-	-	-	-	450	450	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1110	-	0	0	-	0	~ 218	197	714
Stage 1	-	-	0	0	-	0	490	439	-
Stage 2	-	-	0	0	-	0	642	572	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1110	-	-	-	-	-	~ 173	0	714
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 173	0	-
Stage 1	-	-	-	-	-	-	388	0	-
Stage 2	-	-	-	-	-	-	642	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.3	0	196.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	173	714	1110	-	-
HCM Lane V/C Ratio	1.38	0.102	0.17	-	-
HCM Control Delay (s)	253.6	10.6	8.9	0	-
HCM Lane LOS	F	B	A	A	-
HCM 95th %tile Q(veh)	14.4	0.3	0.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	918	0	13	1057	6	3	36	17	239	7	46
Future Volume (veh/h)	39	918	0	13	1057	6	3	36	17	239	7	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	1031	0	19	1113	10	4	65	27	295	9	65
Peak Hour Factor	0.65	0.89	0.92	0.69	0.95	0.62	0.75	0.55	0.62	0.81	0.75	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1253	0	22	1183	11	38	280	330	70	0	330
Arrive On Green	0.04	0.67	0.00	0.01	0.64	0.64	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	1870	0	1781	1851	17	0	1347	1585	0	0	1585
Grp Volume(v), veh/h	60	1031	0	19	0	1123	69	0	27	304	0	65
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1867	1347	0	1585	0	0	1585
Q Serve(g_s), s	3.4	41.1	0.0	1.1	0.0	55.2	0.0	0.0	1.4	0.0	0.0	3.4
Cycle Q Clear(g_c), s	3.4	41.1	0.0	1.1	0.0	55.2	21.1	0.0	1.4	21.1	0.0	3.4
Prop In Lane	1.00		0.00	1.00		0.01	0.06		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	77	1253	0	22	0	1193	318	0	330	70	0	330
V/C Ratio(X)	0.78	0.82	0.00	0.85	0.00	0.94	0.22	0.00	0.08	4.34	0.00	0.20
Avail Cap(c_a), veh/h	123	1262	0	211	0	1352	318	0	330	70	0	330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.0	12.3	0.0	49.9	0.0	16.6	33.2	0.0	32.3	50.7	0.0	33.1
Incr Delay (d2), s/veh	15.2	4.5	0.0	53.4	0.0	12.1	0.3	0.0	0.1	1537.7	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	13.7	0.0	0.8	0.0	21.3	1.4	0.0	0.5	31.7	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.2	16.8	0.0	103.4	0.0	28.7	33.5	0.0	32.4	1588.3	0.0	33.4
LnGrp LOS	E	B	A	F	A	C	C	A	C	F	A	C
Approach Vol, veh/h		1091			1142			96			369	
Approach Delay, s/veh		19.4			30.0			33.2			1314.4	
Approach LOS		B			C			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.4	69.4		24.6	4.3	72.5		24.6				
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5				
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6				
Max Q Clear Time (g_c+I1), s	5.4	57.2		23.1	3.1	43.1		23.1				
Green Ext Time (p_c), s	0.0	7.6		0.0	0.0	8.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		201.5
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	996	13	22	1140	3	36	1	63	6	9	18
Future Volume (veh/h)	1	996	13	22	1140	3	36	1	63	6	9	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	1095	24	37	1163	8	78	4	78	10	13	36
Peak Hour Factor	0.25	0.91	0.55	0.59	0.98	0.38	0.46	0.25	0.81	0.62	0.67	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1165	26	47	1230	8	74	2	346	54	51	346
Arrive On Green	0.00	0.64	0.64	0.03	0.66	0.66	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	1823	40	1781	1855	13	0	9	1585	0	233	1585
Grp Volume(v), veh/h	4	0	1119	37	0	1171	82	0	78	23	0	36
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	0	1868	9	0	1585	233	0	1585
Q Serve(g_s), s	0.2	0.0	51.7	2.0	0.0	54.0	0.0	0.0	3.9	0.0	0.0	1.7
Cycle Q Clear(g_c), s	0.2	0.0	51.7	2.0	0.0	54.0	20.8	0.0	3.9	20.8	0.0	1.7
Prop In Lane	1.00		0.02	1.00		0.01	0.95		1.00	0.43		1.00
Lane Grp Cap(c), veh/h	4	0	1191	47	0	1238	76	0	346	105	0	346
V/C Ratio(X)	0.96	0.00	0.94	0.79	0.00	0.95	1.08	0.00	0.23	0.22	0.00	0.10
Avail Cap(c_a), veh/h	224	0	1343	224	0	1347	76	0	346	105	0	346
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.5	0.0	15.5	46.1	0.0	14.5	47.1	0.0	30.6	31.2	0.0	29.8
Incr Delay (d2), s/veh	192.7	0.0	12.1	25.3	0.0	13.1	127.9	0.0	0.3	1.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	19.5	1.1	0.0	20.0	4.5	0.0	1.5	0.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	240.3	0.0	27.6	71.4	0.0	27.6	175.0	0.0	31.0	32.3	0.0	29.9
LnGrp LOS	F	A	C	E	A	C	F	A	C	C	A	C
Approach Vol, veh/h		1123			1208			160			59	
Approach Delay, s/veh		28.3			28.9			104.8			30.8	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.2	67.8		24.3	5.5	65.5		24.3
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.7		* 21	12.0	68.7		20.3
Max Q Clear Time (g_c+I1), s	2.2	56.0		22.8	4.0	53.7		22.8
Green Ext Time (p_c), s	0.0	6.9		0.0	0.0	7.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	10.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	138	1035	23	35	955
Future Vol, veh/h	81	138	1035	23	35	955
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	0	50	-	340	330	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	150	1125	25	38	1038

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1720	563	0	-	1125	0
Stage 1	1125	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 80	470	-	0	617	-
Stage 1	272	-	-	0	-	-
Stage 2	514	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 75	470	-	-	617	-
Mov Cap-2 Maneuver	~ 75	-	-	-	-	-
Stage 1	272	-	-	-	-	-
Stage 2	482	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	104.9	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	75	470	617	-
HCM Lane V/C Ratio	-	1.174	0.319	0.062	-
HCM Control Delay (s)	-	256.1	16.2	11.2	-
HCM Lane LOS	-	F	C	B	-
HCM 95th %tile Q(veh)	-	6.6	1.4	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	0	163	0	0	0	0	286	45	5	102	0
Future Vol, veh/h	21	0	163	0	0	0	0	286	45	5	102	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	100	100	100	89	89	89	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	209	0	0	0	0	321	51	6	126	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	485	510	126	-	0	0	372	0	0
Stage 1	138	138	-	-	-	-	-	-	-
Stage 2	347	372	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	541	467	924	0	-	-	1186	-	0
Stage 1	889	782	-	0	-	-	-	-	0
Stage 2	716	619	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	538	0	924	-	-	-	1186	-	-
Mov Cap-2 Maneuver	538	0	-	-	-	-	-	-	-
Stage 1	889	0	-	-	-	-	-	-	-
Stage 2	712	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	538	924	1186	-
HCM Lane V/C Ratio	-	-	0.05	0.226	0.005	-
HCM Control Delay (s)	-	-	12	10	8.1	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.9	0	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	108	189	44	140	154
Future Vol, veh/h	25	108	189	44	140	154
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	70	70	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	133	270	63	175	193

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	717	135	0	0	333	0
Stage 1	270	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	364	889	-	-	1223	-
Stage 1	751	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	312	889	-	-	1223	-
Mov Cap-2 Maneuver	415	-	-	-	-	-
Stage 1	751	-	-	-	-	-
Stage 2	524	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	415	889	1223	-
HCM Lane V/C Ratio	-	-	0.074	0.15	0.143	-
HCM Control Delay (s)	-	-	14.4	9.8	8.4	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.5	0.5	-

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	51	51	185	93	37	135
Future Vol, veh/h	51	51	185	93	37	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	94	94	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	69	69	197	99	41	150

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	354	99	0	0	296	0
Stage 1	197	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	618	937	-	-	1262	-
Stage 1	817	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	598	937	-	-	1262	-
Mov Cap-2 Maneuver	648	-	-	-	-	-
Stage 1	817	-	-	-	-	-
Stage 2	828	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	648	937	1262	-
HCM Lane V/C Ratio	-	-	0.106	0.074	0.033	-
HCM Control Delay (s)	-	-	11.2	9.1	7.9	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	0.1	-

Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	94	193	87	54	51	133
Future Vol, veh/h	94	193	87	54	51	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	98	98	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	224	89	55	62	162

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	375	-	0	-	89	0
Stage 1	89	-	-	-	-	-
Stage 2	286	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	626	0	-	0	1506	-
Stage 1	934	0	-	0	-	-
Stage 2	763	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	600	-	-	-	1506	-
Mov Cap-2 Maneuver	600	-	-	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	732	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	600	-	1506	-
HCM Lane V/C Ratio	-	0.182	-	0.041	-
HCM Control Delay (s)	-	12.3	0	7.5	-
HCM Lane LOS	-	B	A	A	-
HCM 95th %tile Q(veh)	-	0.7	-	0.1	-

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	70	0	5	276	38	0	0	69	39
Future Vol, veh/h	0	0	0	70	0	5	276	38	0	0	69	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	66	92	50	88	52	92	92	68	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	106	0	10	314	73	0	0	101	60

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	832	862	73	161	0	-	-	-	0	
Stage 1	701	701	-	-	-	-	-	-	-	
Stage 2	131	161	-	-	-	-	-	-	-	
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-	
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-	
Pot Cap-1 Maneuver	339	293	989	1418	-	0	0	-	-	
Stage 1	492	441	-	-	-	0	0	-	-	
Stage 2	895	765	-	-	-	0	0	-	-	
Platoon blocked, %					-			-	-	
Mov Cap-1 Maneuver	261	0	989	1418	-	-	-	-	-	
Mov Cap-2 Maneuver	261	0	-	-	-	-	-	-	-	
Stage 1	378	0	-	-	-	-	-	-	-	
Stage 2	895	0	-	-	-	-	-	-	-	

Approach	WB	NB	SB
HCM Control Delay, s	26.2	6.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1418	-	261	989	-	-
HCM Lane V/C Ratio	0.221	-	0.406	0.01	-	-
HCM Control Delay (s)	8.3	0	27.9	8.7	-	-
HCM Lane LOS	A	A	D	A	-	-
HCM 95th %tile Q(veh)	0.8	-	1.9	0	-	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	78	106	2	297	0	0	0	0	17	1	102
Future Vol, veh/h	0	78	106	2	297	0	0	0	0	17	1	102
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	89	82	50	85	92	92	92	92	54	25	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	88	129	4	349	0	0	0	0	31	4	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	217	0	0			510	574	349
Stage 1	-	-	-	-	-	-			357	357	-
Stage 2	-	-	-	-	-	-			153	217	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1353	-	0			523	429	694
Stage 1	0	-	-	-	-	0			708	628	-
Stage 2	0	-	-	-	-	0			875	723	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1353	-	-			521	0	694
Mov Cap-2 Maneuver	-	-	-	-	-	-			521	0	-
Stage 1	-	-	-	-	-	-			708	0	-
Stage 2	-	-	-	-	-	-			872	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1353	-	521	694
HCM Lane V/C Ratio	-	-	0.003	-	0.068	0.204
HCM Control Delay (s)	-	-	7.7	0	12.4	11.5
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.2	0.8

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	41	0	0	99	24	215	5	2	0	0	0
Future Vol, veh/h	51	41	0	0	99	24	215	5	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	92	92	72	66	83	50	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	59	0	0	138	36	259	10	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	174	0	-	-	-	0	363	381	59
Stage 1	-	-	-	-	-	-	207	207	-
Stage 2	-	-	-	-	-	-	156	174	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1403	-	0	0	-	-	636	552	1007
Stage 1	-	-	0	0	-	-	828	731	-
Stage 2	-	-	0	0	-	-	872	755	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1403	-	-	-	-	-	601	0	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	0	-
Stage 1	-	-	-	-	-	-	782	0	-
Stage 2	-	-	-	-	-	-	872	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.3	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	601	1007	1403	-	-	-
HCM Lane V/C Ratio	0.448	0.004	0.053	-	-	-
HCM Control Delay (s)	15.8	8.6	7.7	0	-	-
HCM Lane LOS	C	A	A	A	-	-
HCM 95th %tile Q(veh)	2.3	0	0.2	-	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	427	94	59	437	0	0	0	0	49	0	200
Future Vol, veh/h	0	427	94	59	437	0	0	0	0	49	0	200
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	85	91	97	92	92	92	92	67	92	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	464	111	65	451	0	0	0	0	73	0	215

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	464	0	0			1045	1045	451
Stage 1	-	-	-	-	-	-			581	581	-
Stage 2	-	-	-	-	-	-			464	464	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1097	-	0			253	229	608
Stage 1	0	-	0	-	-	0			559	500	-
Stage 2	0	-	0	-	-	0			633	564	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1097	-	-			233	0	608
Mov Cap-2 Maneuver	-	-	-	-	-	-			233	0	-
Stage 1	-	-	-	-	-	-			559	0	-
Stage 2	-	-	-	-	-	-			583	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.1	17.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1097	-	233	608
HCM Lane V/C Ratio	-	0.059	-	0.314	0.354
HCM Control Delay (s)	-	8.5	0	27.4	14.1
HCM Lane LOS	-	A	A	D	B
HCM 95th %tile Q(veh)	-	0.2	-	1.3	1.6

Intersection	
Int Delay, s/veh	26.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	214	267	0	0	353	71	143	1	35	0	0	0
Future Vol, veh/h	214	267	0	0	353	71	143	1	35	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	345	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	87	92	92	94	78	86	25	83	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	252	307	0	0	376	91	166	4	42	0	0	0

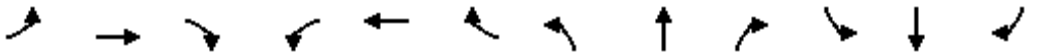
Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	376	0	-	-	-	0	1187	1187	307
Stage 1	-	-	-	-	-	-	811	811	-
Stage 2	-	-	-	-	-	-	376	376	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1182	-	0	0	-	0	208	188	733
Stage 1	-	-	0	0	-	0	437	393	-
Stage 2	-	-	0	0	-	0	694	616	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1182	-	-	-	-	-	~ 155	0	733
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 155	0	-
Stage 1	-	-	-	-	-	-	325	0	-
Stage 2	-	-	-	-	-	-	694	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4	0	130.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	155	733	1182	-	-
HCM Lane V/C Ratio	1.099	0.058	0.213	-	-
HCM Control Delay (s)	159.8	10.2	8.9	0	-
HCM Lane LOS	F	B	A	A	-
HCM 95th %tile Q(veh)	9	0.2	0.8	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	992	1	8	1009	6	7	26	17	245	8	76
Future Volume (veh/h)	41	992	1	8	1009	6	7	26	17	245	8	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	1067	4	18	1134	10	14	32	36	285	9	93
Peak Hour Factor	0.60	0.93	0.25	0.44	0.89	0.62	0.50	0.82	0.47	0.86	0.88	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	1269	5	21	1192	11	45	80	319	68	0	319
Arrive On Green	0.05	0.68	0.68	0.01	0.64	0.64	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1862	7	1781	1851	16	0	396	1585	0	0	1585
Grp Volume(v), veh/h	68	0	1071	18	0	1144	46	0	36	294	0	93
Grp Sat Flow(s),veh/h/ln	1781	0	1869	1781	0	1867	396	0	1585	0	0	1585
Q Serve(g_s), s	4.0	0.0	44.9	1.1	0.0	59.1	0.0	0.0	1.9	0.0	0.0	5.2
Cycle Q Clear(g_c), s	4.0	0.0	44.9	1.1	0.0	59.1	21.1	0.0	1.9	21.1	0.0	5.2
Prop In Lane	1.00		0.00	1.00		0.01	0.30		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	87	0	1273	21	0	1203	124	0	319	68	0	319
V/C Ratio(X)	0.78	0.00	0.84	0.85	0.00	0.95	0.37	0.00	0.11	4.35	0.00	0.29
Avail Cap(c_a), veh/h	119	0	1273	204	0	1306	124	0	319	68	0	319
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.3	0.0	12.5	51.8	0.0	17.2	35.7	0.0	34.3	52.5	0.0	35.6
Incr Delay (d2), s/veh	19.9	0.0	5.2	55.9	0.0	14.2	1.8	0.0	0.2	1542.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	15.1	0.8	0.0	23.6	1.0	0.0	0.8	30.7	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.2	0.0	17.7	107.7	0.0	31.4	37.5	0.0	34.4	1595.1	0.0	36.1
LnGrp LOS	E	A	B	F	A	C	D	A	C	F	A	D
Approach Vol, veh/h		1139			1162			82			387	
Approach Delay, s/veh		20.8			32.6			36.2			1220.5	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	72.2		24.6	4.3	76.1		24.6				
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5				
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6				
Max Q Clear Time (g_c+I1), s	6.0	61.1		23.1	3.1	46.9		23.1				
Green Ext Time (p_c), s	0.0	6.6		0.0	0.0	8.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			193.8									
HCM 6th LOS			F									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1065	9	21	1150	0	38	5	51	6	6	22
Future Volume (veh/h)	9	1065	9	21	1150	0	38	5	51	6	6	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1098	18	47	1186	0	69	10	70	19	14	32
Peak Hour Factor	0.50	0.97	0.50	0.45	0.97	0.92	0.55	0.50	0.73	0.31	0.42	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	1173	19	60	1237	0	68	6	340	58	28	340
Arrive On Green	0.01	0.64	0.64	0.03	0.66	0.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	1835	30	1781	1870	0	0	26	1585	0	131	1585
Grp Volume(v), veh/h	18	0	1116	47	1186	0	79	0	70	33	0	32
Grp Sat Flow(s),veh/h/ln	1781	0	1865	1781	1870	0	26	0	1585	131	0	1585
Q Serve(g_s), s	1.0	0.0	53.0	2.6	57.8	0.0	0.0	0.0	3.6	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.0	0.0	53.0	2.6	57.8	0.0	21.1	0.0	3.6	21.1	0.0	1.6
Prop In Lane	1.00		0.02	1.00		0.00	0.87		1.00	0.58		1.00
Lane Grp Cap(c), veh/h	21	0	1192	60	1237	0	74	0	340	86	0	340
V/C Ratio(X)	0.85	0.00	0.94	0.78	0.96	0.00	1.07	0.00	0.21	0.39	0.00	0.09
Avail Cap(c_a), veh/h	217	0	1295	217	1299	0	74	0	340	86	0	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	16.0	47.2	15.4	0.0	47.7	0.0	31.8	32.9	0.0	31.0
Incr Delay (d2), s/veh	57.2	0.0	12.2	19.0	15.8	0.0	124.4	0.0	0.3	2.8	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	20.3	1.4	22.5	0.0	4.4	0.0	1.4	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	105.8	0.0	28.2	66.2	31.3	0.0	172.1	0.0	32.1	35.7	0.0	31.1
LnGrp LOS	F	A	C	E	C	A	F	A	C	D	A	C
Approach Vol, veh/h		1134			1233			149			65	
Approach Delay, s/veh		29.4			32.6			106.3			33.5	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	69.7		24.6	6.3	67.5		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	3.0	59.8		23.1	4.6	55.0		23.1
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	6.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	11.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	92	932	46	23	1415
Future Vol, veh/h	81	92	932	46	23	1415
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	0	50	-	340	330	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	100	1013	50	25	1538

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1832	507	0	-	1013	0
Stage 1	1013	-	-	-	-	-
Stage 2	819	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 68	511	-	0	680	-
Stage 1	312	-	-	0	-	-
Stage 2	394	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 65	511	-	-	680	-
Mov Cap-2 Maneuver	~ 65	-	-	-	-	-
Stage 1	312	-	-	-	-	-
Stage 2	379	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	166.8	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	65	511	680	-
HCM Lane V/C Ratio	-	1.355	0.196	0.037	-
HCM Control Delay (s)	-	$ 340.5	13.8	10.5	-
HCM Lane LOS	-	F	B	B	-
HCM 95th %tile Q(veh)	-	7.4	0.7	0.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↑	↱		↰	
Traffic Vol, veh/h	32	2	232	0	0	0	0	313	86	9	181	0
Future Vol, veh/h	32	2	232	0	0	0	0	313	86	9	181	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	37	50	80	100	100	100	89	84	74	67	86	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	4	290	0	0	0	0	373	116	13	210	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	667	725	210				-	0	0	489	0	0
Stage 1	236	236	-				-	-	-	-	-	-
Stage 2	431	489	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				-	-	-	2.218	-	-
Pot Cap-1 Maneuver	424	352	830				0	-	-	1074	-	0
Stage 1	803	710	-				0	-	-	-	-	0
Stage 2	655	549	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	418	0	830				-	-	-	1074	-	-
Mov Cap-2 Maneuver	418	0	-				-	-	-	-	-	-
Stage 1	803	0	-				-	-	-	-	-	-
Stage 2	646	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	418	830	1074	-
HCM Lane V/C Ratio	-	-	0.216	0.349	0.013	-
HCM Control Delay (s)	-	-	16	11.6	8.4	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	1.6	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	137	261	30	148	259
Future Vol, veh/h	18	137	261	30	148	259
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	67	76	70	65	90	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	180	373	46	164	360

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	881	187	0	0	419	0
Stage 1	373	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	286	823	-	-	1137	-
Stage 1	666	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	245	823	-	-	1137	-
Mov Cap-2 Maneuver	364	-	-	-	-	-
Stage 1	666	-	-	-	-	-
Stage 2	487	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	364	823	1137	-
HCM Lane V/C Ratio	-	-	0.074	0.219	0.145	-
HCM Control Delay (s)	-	-	15.7	10.6	8.7	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.8	0.5	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	80	105	211	75	62	233
Future Vol, veh/h	80	105	211	75	62	233
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	84	84	74	57	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	90	125	251	101	109	265

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	602	126	0	0	352	0
Stage 1	251	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	431	901	-	-	1203	-
Stage 1	768	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	392	901	-	-	1203	-
Mov Cap-2 Maneuver	488	-	-	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	622	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	2.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	488	901	1203	-
HCM Lane V/C Ratio	-	-	0.184	0.139	0.09	-
HCM Control Delay (s)	-	-	14	9.6	8.3	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.5	0.3	-

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	130	172	41	55	215
Future Vol, veh/h	106	130	172	41	55	215
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	62	82	82	85	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	210	210	50	65	231

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	571	-	0	-	210	0
Stage 1	210	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	482	0	-	0	1361	-
Stage 1	825	0	-	0	-	-
Stage 2	705	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	459	-	-	-	1361	-
Mov Cap-2 Maneuver	459	-	-	-	-	-
Stage 1	825	-	-	-	-	-
Stage 2	671	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.9	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	459	-	1361	-
HCM Lane V/C Ratio	-	0.282	-	0.048	-
HCM Control Delay (s)	-	15.9	0	7.8	-
HCM Lane LOS	-	C	A	A	-
HCM 95th %tile Q(veh)	-	1.1	-	0.1	-

Intersection	
Int Delay, s/veh	10.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	84	0	5	298	74	0	0	101	35
Future Vol, veh/h	0	0	0	84	0	5	298	74	0	0	101	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	64	92	50	96	64	92	92	79	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	131	0	10	310	116	0	0	128	65

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	897	929	116	193	0	-	-	-	0
Stage 1	736	736	-	-	-	-	-	-	-
Stage 2	161	193	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	310	268	936	1380	-	0	0	-	-
Stage 1	474	425	-	-	-	0	0	-	-
Stage 2	868	741	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	236	0	936	1380	-	-	-	-	-
Mov Cap-2 Maneuver	236	0	-	-	-	-	-	-	-
Stage 1	360	0	-	-	-	-	-	-	-
Stage 2	868	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	35.8	6.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1380	-	236	936	-	-
HCM Lane V/C Ratio	0.225	-	0.556	0.011	-	-
HCM Control Delay (s)	8.4	0	37.8	8.9	-	-
HCM Lane LOS	A	A	E	A	-	-
HCM 95th %tile Q(veh)	0.9	-	3	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	82	121	6	330	0	0	0	0	15	0	121
Future Vol, veh/h	0	82	121	6	330	0	0	0	0	15	0	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	77	77	50	81	92	92	92	92	81	92	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	106	157	12	407	0	0	0	0	19	0	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	263	0	0			616	694	407
Stage 1	-	-	-	-	-	-			431	431	-
Stage 2	-	-	-	-	-	-			185	263	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1301	-	0			454	366	644
Stage 1	0	-	-	-	-	0			655	583	-
Stage 2	0	-	-	-	-	0			847	691	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1301	-	-			449	0	644
Mov Cap-2 Maneuver	-	-	-	-	-	-			449	0	-
Stage 1	-	-	-	-	-	-			655	0	-
Stage 2	-	-	-	-	-	-			837	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1301	-	449	644
HCM Lane V/C Ratio	-	-	0.009	-	0.041	0.221
HCM Control Delay (s)	-	-	7.8	0	13.4	12.2
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.1	0.8

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	47	0	0	107	29	229	1	2	0	0	0
Future Vol, veh/h	51	47	0	0	107	29	229	1	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	92	92	70	62	88	25	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	55	0	0	153	47	260	4	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	200	0	-	-	-	0	342	365	55
Stage 1	-	-	-	-	-	-	165	165	-
Stage 2	-	-	-	-	-	-	177	200	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1372	-	0	0	-	-	654	563	1012
Stage 1	-	-	0	0	-	-	864	762	-
Stage 2	-	-	0	0	-	-	854	736	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1372	-	-	-	-	-	627	0	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	627	0	-
Stage 1	-	-	-	-	-	-	829	0	-
Stage 2	-	-	-	-	-	-	854	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.9	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	627	1012	1372	-	-	-
HCM Lane V/C Ratio	0.421	0.004	0.04	-	-	-
HCM Control Delay (s)	14.9	8.6	7.7	0	-	-
HCM Lane LOS	B	A	A	A	-	-
HCM 95th %tile Q(veh)	2.1	0	0.1	-	-	-

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	382	101	82	496	0	0	0	0	56	1	174
Future Vol, veh/h	0	382	101	82	496	0	0	0	0	56	1	174
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	76	70	92	92	92	92	92	82	25	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	415	133	117	539	0	0	0	0	68	4	212

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	415	0	0			1188	1188	539
Stage 1	-	-	-	-	-	-			773	773	-
Stage 2	-	-	-	-	-	-			415	415	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1144	-	0			208	188	542
Stage 1	0	-	0	-	-	0			455	409	-
Stage 2	0	-	0	-	-	0			666	592	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1144	-	-			178	0	542
Mov Cap-2 Maneuver	-	-	-	-	-	-			178	0	-
Stage 1	-	-	-	-	-	-			455	0	-
Stage 2	-	-	-	-	-	-			569	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.5	21.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1144	-	178	542
HCM Lane V/C Ratio	-	0.102	-	0.406	0.392
HCM Control Delay (s)	-	8.5	0	38.4	15.9
HCM Lane LOS	-	A	A	E	C
HCM 95th %tile Q(veh)	-	0.3	-	1.8	1.8

Intersection	
Int Delay, s/veh	54.1

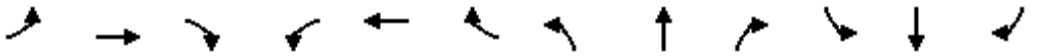
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	164	273	0	0	384	70	191	0	64	0	0	0
Future Vol, veh/h	164	273	0	0	384	70	191	0	64	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	345	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	81	92	92	82	80	80	92	77	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	189	337	0	0	468	88	239	0	83	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	468	0	-	-	-	0	1183	1183	337
Stage 1	-	-	-	-	-	-	715	715	-
Stage 2	-	-	-	-	-	-	468	468	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1094	-	0	0	-	0	~ 209	189	705
Stage 1	-	-	0	0	-	0	485	434	-
Stage 2	-	-	0	0	-	0	630	561	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1094	-	-	-	-	-	~ 164	0	705
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 164	0	-
Stage 1	-	-	-	-	-	-	382	0	-
Stage 2	-	-	-	-	-	-	630	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.2	0	215.9
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	164	705	1094	-	-
HCM Lane V/C Ratio	1.456	0.118	0.172	-	-
HCM Control Delay (s)	287.3	10.8	9	0	-
HCM Lane LOS	F	B	A	A	-
HCM 95th %tile Q(veh)	15.2	0.4	0.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	933	0	13	1072	6	3	36	17	239	7	46
Future Volume (veh/h)	39	933	0	13	1072	6	3	36	17	239	7	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	1048	0	19	1128	10	4	65	27	295	9	65
Peak Hour Factor	0.65	0.89	0.92	0.69	0.95	0.62	0.75	0.55	0.62	0.81	0.75	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1262	0	23	1192	11	37	276	325	69	0	325
Arrive On Green	0.04	0.67	0.00	0.01	0.64	0.64	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1870	0	1781	1851	16	0	1347	1585	0	0	1585
Grp Volume(v), veh/h	60	1048	0	19	0	1138	69	0	27	304	0	65
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1867	1347	0	1585	0	0	1585
Q Serve(g_s), s	3.4	42.7	0.0	1.1	0.0	57.2	0.0	0.0	1.4	0.0	0.0	3.5
Cycle Q Clear(g_c), s	3.4	42.7	0.0	1.1	0.0	57.2	21.1	0.0	1.4	21.1	0.0	3.5
Prop In Lane	1.00		0.00	1.00		0.01	0.06		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	77	1262	0	23	0	1203	313	0	325	69	0	325
V/C Ratio(X)	0.78	0.83	0.00	0.84	0.00	0.95	0.22	0.00	0.08	4.41	0.00	0.20
Avail Cap(c_a), veh/h	121	1262	0	208	0	1331	313	0	325	69	0	325
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.8	12.4	0.0	50.8	0.0	16.7	34.0	0.0	33.1	51.5	0.0	34.0
Incr Delay (d2), s/veh	15.2	4.8	0.0	53.1	0.0	13.2	0.4	0.0	0.1	1569.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	14.4	0.0	0.8	0.0	22.4	1.5	0.0	0.6	31.8	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	17.2	0.0	103.9	0.0	29.9	34.3	0.0	33.2	1621.1	0.0	34.3
LnGrp LOS	E	B	A	F	A	C	C	A	C	F	A	C
Approach Vol, veh/h		1108			1157			96			369	
Approach Delay, s/veh		19.7			31.1			34.0			1341.6	
Approach LOS		B			C			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	70.9		24.6	4.3	74.1		24.6				
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5				
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6				
Max Q Clear Time (g_c+I1), s	5.4	59.2		23.1	3.1	44.7		23.1				
Green Ext Time (p_c), s	0.0	7.1		0.0	0.0	8.1		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	203.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1011	13	22	1155	3	36	1	63	6	9	18
Future Volume (veh/h)	1	1011	13	22	1155	3	36	1	63	6	9	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	1111	24	37	1179	8	78	4	78	10	13	36
Peak Hour Factor	0.25	0.91	0.55	0.59	0.98	0.38	0.46	0.25	0.81	0.62	0.67	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1173	25	47	1238	8	72	2	343	53	50	343
Arrive On Green	0.00	0.64	0.64	0.03	0.67	0.67	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	1824	39	1781	1856	13	0	9	1585	0	230	1585
Grp Volume(v), veh/h	4	0	1135	37	0	1187	82	0	78	23	0	36
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	0	1868	9	0	1585	230	0	1585
Q Serve(g_s), s	0.2	0.0	54.2	2.0	0.0	56.5	0.0	0.0	3.9	0.0	0.0	1.8
Cycle Q Clear(g_c), s	0.2	0.0	54.2	2.0	0.0	56.5	21.1	0.0	3.9	21.1	0.0	1.8
Prop In Lane	1.00		0.02	1.00		0.01	0.95		1.00	0.43		1.00
Lane Grp Cap(c), veh/h	4	0	1198	47	0	1246	74	0	343	103	0	343
V/C Ratio(X)	0.96	0.00	0.95	0.79	0.00	0.95	1.11	0.00	0.23	0.22	0.00	0.10
Avail Cap(c_a), veh/h	220	0	1309	220	0	1312	74	0	343	103	0	343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	15.9	47.1	0.0	14.8	48.1	0.0	31.4	32.0	0.0	30.6
Incr Delay (d2), s/veh	192.4	0.0	13.6	25.1	0.0	14.7	136.5	0.0	0.3	1.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	20.9	1.2	0.0	21.4	4.6	0.0	1.6	0.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	240.9	0.0	29.4	72.2	0.0	29.5	184.6	0.0	31.7	33.1	0.0	30.7
LnGrp LOS	F	A	C	E	A	C	F	A	C	C	A	C
Approach Vol, veh/h		1139			1224			160			59	
Approach Delay, s/veh		30.2			30.8			110.1			31.6	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.2	69.5		24.6	5.6	67.2		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	2.2	58.5		23.1	4.0	56.2		23.1
Green Ext Time (p_c), s	0.0	5.9		0.0	0.0	6.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	12

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	146	1050	23	43	970
Future Vol, veh/h	81	146	1050	23	43	970
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	0	50	-	340	330	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	159	1141	25	47	1054

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1762	571	0	-	1141	0
Stage 1	1141	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 75	464	-	0	608	-
Stage 1	267	-	-	0	-	-
Stage 2	498	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 69	464	-	-	608	-
Mov Cap-2 Maneuver	~ 69	-	-	-	-	-
Stage 1	267	-	-	-	-	-
Stage 2	460	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	118.9	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	69	464	608	-
HCM Lane V/C Ratio	-	1.276	0.342	0.077	-
HCM Control Delay (s)	-	$ 303.2	16.7	11.4	-
HCM Lane LOS	-	F	C	B	-
HCM 95th %tile Q(veh)	-	7.1	1.5	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	44	0	66	66	22
Future Vol, veh/h	29	44	0	66	66	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	48	0	72	72	24

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	156	0	0	0	72	0
Stage 1	0	-	-	-	-	-
Stage 2	156	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	820	-	-	-	1526	-
Stage 1	-	-	-	-	-	-
Stage 2	856	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	781	-	-	-	1526	-
Mov Cap-2 Maneuver	746	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	816	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	5.6
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1526	-
HCM Lane V/C Ratio	-	-	-	0.047	-
HCM Control Delay (s)	-	-	-	7.5	-
HCM Lane LOS	-	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	0	222	0	0	0	0	359	67	5	124	0
Future Vol, veh/h	21	0	222	0	0	0	0	359	67	5	124	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	100	100	100	89	89	89	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	285	0	0	0	0	403	75	6	153	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	606	643	153	-	0	0	478	0	0
Stage 1	165	165	-	-	-	-	-	-	-
Stage 2	441	478	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	460	392	893	0	-	-	1084	-	0
Stage 1	864	762	-	0	-	-	-	-	0
Stage 2	648	556	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	457	0	893	-	-	-	1084	-	-
Mov Cap-2 Maneuver	457	0	-	-	-	-	-	-	-
Stage 1	864	0	-	-	-	-	-	-	-
Stage 2	644	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	457	893	1084	-
HCM Lane V/C Ratio	-	-	0.059	0.319	0.006	-
HCM Control Delay (s)	-	-	13.4	10.9	8.3	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	1.4	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	108	283	44	140	234
Future Vol, veh/h	25	108	283	44	140	234
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	70	70	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	133	404	63	175	293

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	901	202	0	0	467	0
Stage 1	404	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	278	805	-	-	1091	-
Stage 1	643	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	234	805	-	-	1091	-
Mov Cap-2 Maneuver	356	-	-	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	485	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	356	805	1091	-
HCM Lane V/C Ratio	-	-	0.087	0.166	0.16	-
HCM Control Delay (s)	-	-	16.1	10.4	8.9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.6	0.6	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	73	102	229	93	52	201
Future Vol, veh/h	73	102	229	93	52	201
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	94	94	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	99	138	244	99	58	223

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	472	122	0	0	343	0
Stage 1	244	-	-	-	-	-
Stage 2	228	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	521	906	-	-	1213	-
Stage 1	774	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	496	906	-	-	1213	-
Mov Cap-2 Maneuver	574	-	-	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.9	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	574	906	1213	-
HCM Lane V/C Ratio	-	-	0.172	0.152	0.048	-
HCM Control Delay (s)	-	-	12.6	9.7	8.1	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.5	0.1	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	94	201	146	54	59	177
Future Vol, veh/h	94	201	146	54	59	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	98	98	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	234	149	55	72	216

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	509	-	0	-	149	0
Stage 1	149	-	-	-	-	-
Stage 2	360	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	524	0	-	0	1432	-
Stage 1	879	0	-	0	-	-
Stage 2	706	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	498	-	-	-	1432	-
Mov Cap-2 Maneuver	498	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	671	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	498	-	1432	-
HCM Lane V/C Ratio	-	0.219	-	0.05	-
HCM Control Delay (s)	-	14.3	0	7.6	-
HCM Lane LOS	-	B	A	A	-
HCM 95th %tile Q(veh)	-	0.8	-	0.2	-

Intersection	
Int Delay, s/veh	15.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	92	0	5	349	38	0	0	69	39
Future Vol, veh/h	0	0	0	92	0	5	349	38	0	0	69	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	66	92	50	88	52	92	92	68	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	139	0	10	397	73	0	0	101	60

Major/Minor	Minor1			Major1			Major2			
Conflicting Flow All	998	1028	73	161	0	-	-	-	0
Stage 1	867	867	-	-	-	-	-	-	-
Stage 2	131	161	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	270	234	989	1418	-	0	0	-	-
Stage 1	411	370	-	-	-	0	0	-	-
Stage 2	895	765	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	191	0	989	1418	-	-	-	-	-
Mov Cap-2 Maneuver	191	0	-	-	-	-	-	-	-
Stage 1	291	0	-	-	-	-	-	-	-
Stage 2	895	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	58.9	7.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1418	-	191	989	-	-
HCM Lane V/C Ratio	0.28	-	0.73	0.01	-	-
HCM Control Delay (s)	8.5	0	62.5	8.7	-	-
HCM Lane LOS	A	A	F	A	-	-
HCM 95th %tile Q(veh)	1.2	-	4.7	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	78	121	2	312	0	0	0	0	17	1	102
Future Vol, veh/h	0	78	121	2	312	0	0	0	0	17	1	102
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	89	82	50	85	92	92	92	92	54	25	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	88	148	4	367	0	0	0	0	31	4	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	236	0	0			537	611	367
Stage 1	-	-	-	-	-	-			375	375	-
Stage 2	-	-	-	-	-	-			162	236	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1331	-	0			505	409	678
Stage 1	0	-	-	-	-	0			695	617	-
Stage 2	0	-	-	-	-	0			867	710	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1331	-	-			503	0	678
Mov Cap-2 Maneuver	-	-	-	-	-	-			503	0	-
Stage 1	-	-	-	-	-	-			695	0	-
Stage 2	-	-	-	-	-	-			864	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1331	-	503	678
HCM Lane V/C Ratio	-	-	0.003	-	0.071	0.209
HCM Control Delay (s)	-	-	7.7	0	12.7	11.7
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.2	0.8

Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	41	0	0	99	24	230	5	2	0	0	0
Future Vol, veh/h	51	41	0	0	99	24	230	5	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	92	92	72	66	83	50	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	59	0	0	138	36	277	10	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	174	0	-	-	-	0	363	381	59
Stage 1	-	-	-	-	-	-	207	207	-
Stage 2	-	-	-	-	-	-	156	174	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1403	-	0	0	-	-	636	552	1007
Stage 1	-	-	0	0	-	-	828	731	-
Stage 2	-	-	0	0	-	-	872	755	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1403	-	-	-	-	-	601	0	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	0	-
Stage 1	-	-	-	-	-	-	782	0	-
Stage 2	-	-	-	-	-	-	872	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.3	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	601	1007	1403	-	-	-
HCM Lane V/C Ratio	0.478	0.004	0.053	-	-	-
HCM Control Delay (s)	16.3	8.6	7.7	0	-	-
HCM Lane LOS	C	A	A	A	-	-
HCM 95th %tile Q(veh)	2.6	0	0.2	-	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	435	94	67	445	0	0	0	0	49	0	200
Future Vol, veh/h	0	435	94	67	445	0	0	0	0	49	0	200
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	85	91	97	92	92	92	92	67	92	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	473	111	74	459	0	0	0	0	73	0	215

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	473	0	0			1080	1080	459
Stage 1	-	-	-	-	-	-			607	607	-
Stage 2	-	-	-	-	-	-			473	473	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1089	-	0			241	218	602
Stage 1	0	-	0	-	-	0			544	486	-
Stage 2	0	-	0	-	-	0			627	558	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1089	-	-			219	0	602
Mov Cap-2 Maneuver	-	-	-	-	-	-			219	0	-
Stage 1	-	-	-	-	-	-			544	0	-
Stage 2	-	-	-	-	-	-			570	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.2	18.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1089	-	219	602
HCM Lane V/C Ratio	-	0.068	-	0.334	0.357
HCM Control Delay (s)	-	8.5	0	29.5	14.3
HCM Lane LOS	-	A	A	D	B
HCM 95th %tile Q(veh)	-	0.2	-	1.4	1.6

Intersection	
Int Delay, s/veh	28.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	214	275	0	0	368	71	143	1	43	0	0	0
Future Vol, veh/h	214	275	0	0	368	71	143	1	43	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	345	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	87	92	92	94	78	86	25	83	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	252	316	0	0	391	91	166	4	52	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	391	0	-	-	-	0	1211	1211	316
Stage 1	-	-	-	-	-	-	820	820	-
Stage 2	-	-	-	-	-	-	391	391	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1168	-	0	0	-	0	201	182	724
Stage 1	-	-	0	0	-	0	433	389	-
Stage 2	-	-	0	0	-	0	683	607	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1168	-	-	-	-	-	~ 148	0	724
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 148	0	-
Stage 1	-	-	-	-	-	-	320	0	-
Stage 2	-	-	-	-	-	-	683	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4	0	140.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	148	724	1168	-	-
HCM Lane V/C Ratio	1.151	0.072	0.216	-	-
HCM Control Delay (s)	180.4	10.4	8.9	0	-
HCM Lane LOS	F	B	A	A	-
HCM 95th %tile Q(veh)	9.5	0.2	0.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	1007	1	8	1024	6	7	26	17	245	8	76
Future Volume (veh/h)	41	1007	1	8	1024	6	7	26	17	245	8	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	68	1083	4	18	1151	10	14	32	36	285	9	93
Peak Hour Factor	0.60	0.93	0.25	0.44	0.89	0.62	0.50	0.82	0.47	0.86	0.88	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	1278	5	21	1202	10	44	78	314	66	0	314
Arrive On Green	0.05	0.69	0.69	0.01	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1862	7	1781	1851	16	0	396	1585	0	0	1585
Grp Volume(v), veh/h	68	0	1087	18	0	1161	46	0	36	294	0	93
Grp Sat Flow(s),veh/h/ln	1781	0	1869	1781	0	1867	396	0	1585	0	0	1585
Q Serve(g_s), s	4.0	0.0	46.5	1.1	0.0	61.5	0.0	0.0	2.0	0.0	0.0	5.3
Cycle Q Clear(g_c), s	4.0	0.0	46.5	1.1	0.0	61.5	21.1	0.0	2.0	21.1	0.0	5.3
Prop In Lane	1.00		0.00	1.00		0.01	0.30		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	87	0	1283	21	0	1212	122	0	314	66	0	314
V/C Ratio(X)	0.78	0.00	0.85	0.85	0.00	0.96	0.38	0.00	0.11	4.42	0.00	0.30
Avail Cap(c_a), veh/h	117	0	1283	200	0	1285	122	0	314	66	0	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.1	0.0	12.6	52.6	0.0	17.4	36.5	0.0	35.1	53.3	0.0	36.5
Incr Delay (d2), s/veh	20.7	0.0	5.5	55.6	0.0	15.7	1.9	0.0	0.2	1574.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	15.7	0.8	0.0	24.9	1.1	0.0	0.8	30.9	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.8	0.0	18.0	108.2	0.0	33.0	38.4	0.0	35.3	1628.1	0.0	37.0
LnGrp LOS	E	A	B	F	A	C	D	A	D	F	A	D
Approach Vol, veh/h		1155			1179			82			387	
Approach Delay, s/veh		21.2			34.2			37.0			1245.7	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	73.8		24.6	4.3	77.8		24.6				
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5				
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6				
Max Q Clear Time (g_c+I1), s	6.0	63.5		23.1	3.1	48.5		23.1				
Green Ext Time (p_c), s	0.0	5.7		0.0	0.0	8.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		196.2
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1080	9	21	1165	0	38	5	51	6	6	22
Future Volume (veh/h)	9	1080	9	21	1165	0	38	5	51	6	6	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1113	18	47	1201	0	69	10	70	19	14	32
Peak Hour Factor	0.50	0.97	0.50	0.45	0.97	0.92	0.55	0.50	0.73	0.31	0.42	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	1180	19	60	1243	0	68	5	336	57	28	336
Arrive On Green	0.01	0.64	0.64	0.03	0.66	0.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	1835	30	1781	1870	0	0	26	1585	0	131	1585
Grp Volume(v), veh/h	18	0	1131	47	1201	0	79	0	70	33	0	32
Grp Sat Flow(s),veh/h/ln	1781	0	1865	1781	1870	0	26	0	1585	131	0	1585
Q Serve(g_s), s	1.0	0.0	54.8	2.6	59.9	0.0	0.0	0.0	3.6	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.0	0.0	54.8	2.6	59.9	0.0	21.1	0.0	3.6	21.1	0.0	1.6
Prop In Lane	1.00		0.02	1.00		0.00	0.87		1.00	0.58		1.00
Lane Grp Cap(c), veh/h	21	0	1199	60	1243	0	73	0	336	85	0	336
V/C Ratio(X)	0.85	0.00	0.94	0.78	0.97	0.00	1.08	0.00	0.21	0.39	0.00	0.10
Avail Cap(c_a), veh/h	215	0	1281	215	1285	0	73	0	336	85	0	336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.1	0.0	16.1	47.7	15.6	0.0	48.2	0.0	32.3	33.4	0.0	31.6
Incr Delay (d2), s/veh	57.0	0.0	13.4	19.0	17.3	0.0	128.6	0.0	0.3	2.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	21.3	1.4	23.6	0.0	4.4	0.0	1.4	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.1	0.0	29.6	66.7	33.0	0.0	176.9	0.0	32.7	36.3	0.0	31.7
LnGrp LOS	F	A	C	E	C	A	F	A	C	D	A	C
Approach Vol, veh/h		1149			1248			149			65	
Approach Delay, s/veh		30.8			34.2			109.1			34.0	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	70.8		24.6	6.4	68.6		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	3.0	61.9		23.1	4.6	56.8		23.1
Green Ext Time (p_c), s	0.0	4.3		0.0	0.0	6.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	13

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	100	947	46	31	1430
Future Vol, veh/h	81	100	947	46	31	1430
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	0	50	-	340	330	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	109	1029	50	34	1554

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1874	515	0	-	1029	0
Stage 1	1029	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 63	505	-	0	671	-
Stage 1	306	-	-	0	-	-
Stage 2	382	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 60	505	-	-	671	-
Mov Cap-2 Maneuver	~ 60	-	-	-	-	-
Stage 1	306	-	-	-	-	-
Stage 2	363	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	184.7	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	60	505	671	-
HCM Lane V/C Ratio	-	1.467	0.215	0.05	-
HCM Control Delay (s)	-	$ 395.3	14.1	10.6	-
HCM Lane LOS	-	F	B	B	-
HCM 95th %tile Q(veh)	-	7.8	0.8	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	44	0	66	66	22
Future Vol, veh/h	29	44	0	66	66	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	48	0	72	72	24

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	156	0	0	0	72	0
Stage 1	0	-	-	-	-	-
Stage 2	156	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	820	-	-	-	1526	-
Stage 1	-	-	-	-	-	-
Stage 2	856	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	781	-	-	-	1526	-
Mov Cap-2 Maneuver	746	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	816	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	5.6
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1526	-
HCM Lane V/C Ratio	-	-	-	0.047	-
HCM Control Delay (s)	-	-	-	7.5	-
HCM Lane LOS	-	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↑	↱		↰	
Traffic Vol, veh/h	32	2	267	0	0	0	0	318	88	9	195	0
Future Vol, veh/h	32	2	267	0	0	0	0	318	88	9	195	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	37	50	80	100	100	100	89	84	74	67	86	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	4	334	0	0	0	0	379	119	13	227	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	692	751	227	-	0	0	498	0	0
Stage 1	253	253	-	-	-	-	-	-	-
Stage 2	439	498	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	410	340	812	0	-	-	1066	-	0
Stage 1	789	698	-	0	-	-	-	-	0
Stage 2	650	544	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	404	0	812	-	-	-	1066	-	-
Mov Cap-2 Maneuver	404	0	-	-	-	-	-	-	-
Stage 1	789	0	-	-	-	-	-	-	-
Stage 2	641	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	404	812	1066	-
HCM Lane V/C Ratio	-	-	0.224	0.411	0.013	-
HCM Control Delay (s)	-	-	16.5	12.5	8.4	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	2	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	141	264	39	188	268
Future Vol, veh/h	19	141	264	39	188	268
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	67	76	70	65	90	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	186	377	60	209	372

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	981	189	0	0	437	0
Stage 1	377	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	247	821	-	-	1119	-
Stage 1	663	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	201	821	-	-	1119	-
Mov Cap-2 Maneuver	316	-	-	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	3.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	316	821	1119	-
HCM Lane V/C Ratio	-	-	0.09	0.226	0.187	-
HCM Control Delay (s)	-	-	17.5	10.7	9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.9	0.7	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	108	220	102	71	234
Future Vol, veh/h	81	108	220	102	71	234
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	84	84	74	57	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	91	129	262	138	125	266

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	645	131	0	0	400	0
Stage 1	262	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	405	894	-	-	1155	-
Stage 1	758	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	361	894	-	-	1155	-
Mov Cap-2 Maneuver	461	-	-	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	588	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	461	894	1155	-
HCM Lane V/C Ratio	-	-	0.197	0.144	0.108	-
HCM Control Delay (s)	-	-	14.7	9.7	8.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.5	0.4	-

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	135	207	41	56	218
Future Vol, veh/h	106	135	207	41	56	218
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	62	82	82	85	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	218	252	50	66	234

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	618	-	0	-	252	0
Stage 1	252	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	453	0	-	0	1313	-
Stage 1	790	0	-	0	-	-
Stage 2	702	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	430	-	-	-	1313	-
Mov Cap-2 Maneuver	430	-	-	-	-	-
Stage 1	790	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	430	-	1313	-
HCM Lane V/C Ratio	-	0.301	-	0.05	-
HCM Control Delay (s)	-	16.9	0	7.9	-
HCM Lane LOS	-	C	A	A	-
HCM 95th %tile Q(veh)	-	1.2	-	0.2	-

Intersection	
Int Delay, s/veh	12.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	98	0	5	303	74	0	0	101	35
Future Vol, veh/h	0	0	0	98	0	5	303	74	0	0	101	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	64	92	50	96	64	92	92	79	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	153	0	10	316	116	0	0	128	65

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	909	941	116	193	0	-	-	-	0
Stage 1	748	748	-	-	-	-	-	-	-
Stage 2	161	193	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	305	263	936	1380	-	0	0	-	-
Stage 1	468	420	-	-	-	0	0	-	-
Stage 2	868	741	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	230	0	936	1380	-	-	-	-	-
Mov Cap-2 Maneuver	230	0	-	-	-	-	-	-	-
Stage 1	353	0	-	-	-	-	-	-	-
Stage 2	868	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	44.9	6.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1380	-	230	936	-	-
HCM Lane V/C Ratio	0.229	-	0.666	0.011	-	-
HCM Control Delay (s)	8.4	0	47.2	8.9	-	-
HCM Lane LOS	A	A	E	A	-	-
HCM 95th %tile Q(veh)	0.9	-	4.2	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	82	130	6	331	0	0	0	0	15	0	121
Future Vol, veh/h	0	82	130	6	331	0	0	0	0	15	0	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	77	77	50	81	92	92	92	92	81	92	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	106	169	12	409	0	0	0	0	19	0	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	275	0	0			624	708	409
Stage 1	-	-	-	-	-	-			433	433	-
Stage 2	-	-	-	-	-	-			191	275	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1288	-	0			449	360	642
Stage 1	0	-	-	-	-	0			654	582	-
Stage 2	0	-	-	-	-	0			841	683	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1288	-	-			444	0	642
Mov Cap-2 Maneuver	-	-	-	-	-	-			444	0	-
Stage 1	-	-	-	-	-	-			654	0	-
Stage 2	-	-	-	-	-	-			831	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1288	-	444	642
HCM Lane V/C Ratio	-	-	0.009	-	0.042	0.222
HCM Control Delay (s)	-	-	7.8	0	13.5	12.2
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.1	0.8

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	47	0	0	107	29	230	1	2	0	0	0
Future Vol, veh/h	51	47	0	0	107	29	230	1	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	92	92	70	62	88	25	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	55	0	0	153	47	261	4	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	200	0	-	-	-	0	342	365	55
Stage 1	-	-	-	-	-	-	165	165	-
Stage 2	-	-	-	-	-	-	177	200	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1372	-	0	0	-	-	654	563	1012
Stage 1	-	-	0	0	-	-	864	762	-
Stage 2	-	-	0	0	-	-	854	736	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1372	-	-	-	-	-	627	0	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	627	0	-
Stage 1	-	-	-	-	-	-	829	0	-
Stage 2	-	-	-	-	-	-	854	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.9	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	627	1012	1372	-	-	-
HCM Lane V/C Ratio	0.423	0.004	0.04	-	-	-
HCM Control Delay (s)	14.9	8.6	7.7	0	-	-
HCM Lane LOS	B	A	A	A	-	-
HCM 95th %tile Q(veh)	2.1	0	0.1	-	-	-

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	387	101	83	497	0	0	0	0	56	1	174
Future Vol, veh/h	0	387	101	83	497	0	0	0	0	56	1	174
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	76	70	92	92	92	92	92	82	25	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	421	133	119	540	0	0	0	0	68	4	212

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	421	0	0			1199	1199	540
Stage 1	-	-	-	-	-	-			778	778	-
Stage 2	-	-	-	-	-	-			421	421	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1138	-	0			205	185	542
Stage 1	0	-	0	-	-	0			453	407	-
Stage 2	0	-	0	-	-	0			662	589	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1138	-	-			174	0	542
Mov Cap-2 Maneuver	-	-	-	-	-	-			174	0	-
Stage 1	-	-	-	-	-	-			453	0	-
Stage 2	-	-	-	-	-	-			563	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.5	21.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1138	-	174	542
HCM Lane V/C Ratio	-	0.104	-	0.415	0.392
HCM Control Delay (s)	-	8.5	0	39.7	15.9
HCM Lane LOS	-	A	A	E	C
HCM 95th %tile Q(veh)	-	0.3	-	1.9	1.8

Intersection	
Int Delay, s/veh	54.3

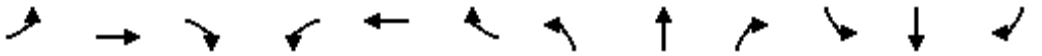
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	164	278	0	0	385	70	191	0	69	0	0	0
Future Vol, veh/h	164	278	0	0	385	70	191	0	69	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	345	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	81	92	92	82	80	80	92	77	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	189	343	0	0	470	88	239	0	90	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	470	0	-	-	-	0	1191	1191	343
Stage 1	-	-	-	-	-	-	721	721	-
Stage 2	-	-	-	-	-	-	470	470	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1092	-	0	0	-	0	~ 207	187	700
Stage 1	-	-	0	0	-	0	482	432	-
Stage 2	-	-	0	0	-	0	629	560	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1092	-	-	-	-	-	~ 163	0	700
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 163	0	-
Stage 1	-	-	-	-	-	-	379	0	-
Stage 2	-	-	-	-	-	-	629	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.2	0	214.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	163	700	1092	-	-
HCM Lane V/C Ratio	1.465	0.128	0.173	-	-
HCM Control Delay (s)	291.3	10.9	9	0	-
HCM Lane LOS	F	B	A	A	-
HCM 95th %tile Q(veh)	15.3	0.4	0.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	934	0	13	1077	6	3	36	17	239	7	51
Future Volume (veh/h)	40	934	0	13	1077	6	3	36	17	239	7	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	1049	0	19	1134	10	4	65	27	295	9	72
Peak Hour Factor	0.65	0.89	0.92	0.69	0.95	0.62	0.75	0.55	0.62	0.81	0.75	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	1267	0	23	1195	11	37	273	322	68	0	322
Arrive On Green	0.04	0.68	0.00	0.01	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1870	0	1781	1851	16	0	1347	1585	0	0	1585
Grp Volume(v), veh/h	62	1049	0	19	0	1144	69	0	27	304	0	72
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1867	1347	0	1585	0	0	1585
Q Serve(g_s), s	3.6	42.8	0.0	1.1	0.0	58.3	0.0	0.0	1.4	0.0	0.0	3.9
Cycle Q Clear(g_c), s	3.6	42.8	0.0	1.1	0.0	58.3	21.1	0.0	1.4	21.1	0.0	3.9
Prop In Lane	1.00		0.00	1.00		0.01	0.06		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	80	1267	0	23	0	1205	310	0	322	68	0	322
V/C Ratio(X)	0.78	0.83	0.00	0.84	0.00	0.95	0.22	0.00	0.08	4.46	0.00	0.22
Avail Cap(c_a), veh/h	120	1267	0	206	0	1318	310	0	322	68	0	322
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.1	12.3	0.0	51.2	0.0	16.9	34.5	0.0	33.6	52.0	0.0	34.6
Incr Delay (d2), s/veh	16.4	4.7	0.0	52.9	0.0	13.8	0.4	0.0	0.1	1588.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	14.4	0.0	0.8	0.0	23.0	1.5	0.0	0.6	31.9	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.5	17.0	0.0	104.2	0.0	30.6	34.8	0.0	33.7	1640.6	0.0	35.0
LnGrp LOS	E	B	A	F	A	C	C	A	C	F	A	C
Approach Vol, veh/h		1111			1163			96			376	
Approach Delay, s/veh		19.7			31.8			34.5			1333.1	
Approach LOS		B			C			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	71.7		24.6	4.3	75.1		24.6				
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5				
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6				
Max Q Clear Time (g_c+I1), s	5.6	60.3		23.1	3.1	44.8		23.1				
Green Ext Time (p_c), s	0.0	6.8		0.0	0.0	8.1		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		205.2
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1012	13	22	1164	3	36	1	63	6	9	18
Future Volume (veh/h)	1	1012	13	22	1164	3	36	1	63	6	9	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	1112	24	37	1188	8	78	4	78	10	13	36
Peak Hour Factor	0.25	0.91	0.55	0.59	0.98	0.38	0.46	0.25	0.81	0.62	0.67	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1174	25	47	1239	8	72	2	343	53	50	343
Arrive On Green	0.00	0.64	0.64	0.03	0.67	0.67	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	1824	39	1781	1856	12	0	9	1585	0	230	1585
Grp Volume(v), veh/h	4	0	1136	37	0	1196	82	0	78	23	0	36
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	0	1868	9	0	1585	230	0	1585
Q Serve(g_s), s	0.2	0.0	54.3	2.0	0.0	57.7	0.0	0.0	4.0	0.0	0.0	1.8
Cycle Q Clear(g_c), s	0.2	0.0	54.3	2.0	0.0	57.7	21.1	0.0	4.0	21.1	0.0	1.8
Prop In Lane	1.00		0.02	1.00		0.01	0.95		1.00	0.43		1.00
Lane Grp Cap(c), veh/h	4	0	1199	47	0	1247	74	0	343	103	0	343
V/C Ratio(X)	0.96	0.00	0.95	0.79	0.00	0.96	1.11	0.00	0.23	0.22	0.00	0.10
Avail Cap(c_a), veh/h	219	0	1307	219	0	1310	74	0	343	103	0	343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	15.9	47.2	0.0	15.0	48.2	0.0	31.5	32.1	0.0	30.6
Incr Delay (d2), s/veh	192.3	0.0	13.6	25.1	0.0	15.7	137.2	0.0	0.3	1.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	21.0	1.2	0.0	22.1	4.6	0.0	1.6	0.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	241.0	0.0	29.5	72.3	0.0	30.7	185.4	0.0	31.8	33.2	0.0	30.8
LnGrp LOS	F	A	C	E	A	C	F	A	C	C	A	C
Approach Vol, veh/h		1140			1233			160			59	
Approach Delay, s/veh		30.2			32.0			110.5			31.7	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.2	69.7		24.6	5.6	67.4		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	2.2	59.7		23.1	4.0	56.3		23.1
Green Ext Time (p_c), s	0.0	5.4		0.0	0.0	6.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	12.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	151	1059	23	44	971
Future Vol, veh/h	81	151	1059	23	44	971
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	0	50	-	340	330	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	164	1151	25	48	1055

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1775	576	0	-	1151	0
Stage 1	1151	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 74	460	-	0	603	-
Stage 1	263	-	-	0	-	-
Stage 2	496	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 68	460	-	-	603	-
Mov Cap-2 Maneuver	~ 68	-	-	-	-	-
Stage 1	263	-	-	-	-	-
Stage 2	456	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	120.1	0	0.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	68	460	603	-
HCM Lane V/C Ratio	-	1.295	0.357	0.079	-
HCM Control Delay (s)	-	$ 312	17.1	11.5	-
HCM Lane LOS	-	F	C	B	-
HCM 95th %tile Q(veh)	-	7.1	1.6	0.3	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	44	35	71	66	24
Future Vol, veh/h	31	44	35	71	66	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	48	38	77	72	26

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	195	19	0	0	115	0
Stage 1	38	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	776	1055	-	-	1472	-
Stage 1	980	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	738	1055	-	-	1472	-
Mov Cap-2 Maneuver	726	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	5.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	1472	-
HCM Lane V/C Ratio	-	-	0.092	0.049	-
HCM Control Delay (s)	-	-	9.5	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↑	↱		↰	
Traffic Vol, veh/h	21	0	257	0	0	0	0	364	69	5	138	0
Future Vol, veh/h	21	0	257	0	0	0	0	364	69	5	138	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	100	100	100	89	89	89	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	329	0	0	0	0	409	78	6	170	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	630	669	170	-	0	0	487	0	0
Stage 1	182	182	-	-	-	-	-	-	-
Stage 2	448	487	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	446	379	874	0	-	-	1076	-	0
Stage 1	849	749	-	0	-	-	-	-	0
Stage 2	644	550	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	443	0	874	-	-	-	1076	-	-
Mov Cap-2 Maneuver	443	0	-	-	-	-	-	-	-
Stage 1	849	0	-	-	-	-	-	-	-
Stage 2	640	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	443	874	1076	-
HCM Lane V/C Ratio	-	-	0.061	0.377	0.006	-
HCM Control Delay (s)	-	-	13.7	11.6	8.4	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	1.8	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	112	286	53	180	243
Future Vol, veh/h	26	112	286	53	180	243
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	70	70	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	138	409	76	225	304

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1011	205	0	0	485	0
Stage 1	409	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	236	802	-	-	1074	-
Stage 1	639	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	187	802	-	-	1074	-
Mov Cap-2 Maneuver	304	-	-	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	403	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	3.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	304	802	1074	-
HCM Lane V/C Ratio	-	-	0.106	0.172	0.209	-
HCM Control Delay (s)	-	-	18.2	10.4	9.2	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.8	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	105	238	120	61	202
Future Vol, veh/h	74	105	238	120	61	202
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	94	94	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	142	253	128	68	224

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	501	127	0	0	381	0
Stage 1	253	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	499	900	-	-	1174	-
Stage 1	766	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	470	900	-	-	1174	-
Mov Cap-2 Maneuver	554	-	-	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	554	900	1174	-
HCM Lane V/C Ratio	-	-	0.181	0.158	0.058	-
HCM Control Delay (s)	-	-	12.9	9.7	8.3	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.6	0.2	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	94	206	181	54	60	180
Future Vol, veh/h	94	206	181	54	60	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	98	98	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	240	185	55	73	220

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	551	-	0	-	185	0
Stage 1	185	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	495	0	-	0	1390	-
Stage 1	847	0	-	0	-	-
Stage 2	702	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	469	-	-	-	1390	-
Mov Cap-2 Maneuver	469	-	-	-	-	-
Stage 1	847	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	1.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	469	-	1390	-
HCM Lane V/C Ratio	-	0.233	-	0.053	-
HCM Control Delay (s)	-	15	0	7.7	-
HCM Lane LOS	-	C	A	A	-
HCM 95th %tile Q(veh)	-	0.9	-	0.2	-

Intersection	
Int Delay, s/veh	20.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	106	0	5	354	38	0	0	69	39
Future Vol, veh/h	0	0	0	106	0	5	354	38	0	0	69	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	-	-	-	-	-	-
Veh in Median Storage, #	-	2	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	66	92	50	88	52	92	92	68	65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	161	0	10	402	73	0	0	101	60

Major/Minor	Minor1		Major1		Major2				
Conflicting Flow All	1008	1038	73	161	0	-	-	-	0
Stage 1	877	877	-	-	-	-	-	-	-
Stage 2	131	161	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	267	231	989	1418	-	0	0	-	-
Stage 1	407	366	-	-	-	0	0	-	-
Stage 2	895	765	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	188	0	989	1418	-	-	-	-	-
Mov Cap-2 Maneuver	188	0	-	-	-	-	-	-	-
Stage 1	287	0	-	-	-	-	-	-	-
Stage 2	895	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	78.8	7.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	1418	-	188	989	-	-
HCM Lane V/C Ratio	0.284	-	0.854	0.01	-	-
HCM Control Delay (s)	8.5	0	83.2	8.7	-	-
HCM Lane LOS	A	A	F	A	-	-
HCM 95th %tile Q(veh)	1.2	-	6.2	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	78	130	2	313	0	0	0	0	17	1	102
Future Vol, veh/h	0	78	130	2	313	0	0	0	0	17	1	102
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	89	82	50	85	92	92	92	92	54	25	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	88	159	4	368	0	0	0	0	31	4	142

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	247	0	0	544	623	368
Stage 1	-	-	-	-	-	-	376	376	-
Stage 2	-	-	-	-	-	-	168	247	-
Critical Hdwy	-	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1319	-	0	500	402	677
Stage 1	0	-	-	-	-	0	694	616	-
Stage 2	0	-	-	-	-	0	862	702	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	-	-	-	1319	-	-	498	0	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	498	0	-
Stage 1	-	-	-	-	-	-	694	0	-
Stage 2	-	-	-	-	-	-	859	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1319	-	498	677
HCM Lane V/C Ratio	-	-	0.003	-	0.071	0.209
HCM Control Delay (s)	-	-	7.7	0	12.8	11.7
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.2	0.8

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	41	0	0	99	24	232	5	2	0	0	0
Future Vol, veh/h	51	41	0	0	99	24	232	5	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	92	92	72	66	83	50	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	59	0	0	138	36	280	10	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	174	0	-	-	-	0	363	381	59
Stage 1	-	-	-	-	-	-	207	207	-
Stage 2	-	-	-	-	-	-	156	174	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1403	-	0	0	-	-	636	552	1007
Stage 1	-	-	0	0	-	-	828	731	-
Stage 2	-	-	0	0	-	-	872	755	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1403	-	-	-	-	-	601	0	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	0	-
Stage 1	-	-	-	-	-	-	782	0	-
Stage 2	-	-	-	-	-	-	872	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.3	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	601	1007	1403	-	-	-
HCM Lane V/C Ratio	0.482	0.004	0.053	-	-	-
HCM Control Delay (s)	16.4	8.6	7.7	0	-	-
HCM Lane LOS	C	A	A	A	-	-
HCM 95th %tile Q(veh)	2.6	0	0.2	-	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	440	94	68	446	0	0	0	0	49	0	200
Future Vol, veh/h	0	440	94	68	446	0	0	0	0	49	0	200
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	85	91	97	92	92	92	92	67	92	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	478	111	75	460	0	0	0	0	73	0	215

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	478	0	0			1088	1088	460
Stage 1	-	-	-	-	-	-			610	610	-
Stage 2	-	-	-	-	-	-			478	478	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1084	-	0			239	216	601
Stage 1	0	-	0	-	-	0			542	485	-
Stage 2	0	-	0	-	-	0			624	556	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1084	-	-			217	0	601
Mov Cap-2 Maneuver	-	-	-	-	-	-			217	0	-
Stage 1	-	-	-	-	-	-			542	0	-
Stage 2	-	-	-	-	-	-			566	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.2	18.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1084	-	217	601
HCM Lane V/C Ratio	-	0.069	-	0.337	0.358
HCM Control Delay (s)	-	8.6	0	29.8	14.3
HCM Lane LOS	-	A	A	D	B
HCM 95th %tile Q(veh)	-	0.2	-	1.4	1.6

Intersection	
Int Delay, s/veh	28.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	214	280	0	0	369	71	143	1	48	0	0	0
Future Vol, veh/h	214	280	0	0	369	71	143	1	48	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	25	345	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	87	92	92	94	78	86	25	83	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	252	322	0	0	393	91	166	4	58	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	393	0	-	-	-	0	1219	1219	322
Stage 1	-	-	-	-	-	-	826	826	-
Stage 2	-	-	-	-	-	-	393	393	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1166	-	0	0	-	0	199	180	719
Stage 1	-	-	0	0	-	0	430	387	-
Stage 2	-	-	0	0	-	0	682	606	-
Platoon blocked, %		-			-				
Mov Cap-1 Maneuver	1166	-	-	-	-	-	~ 147	0	719
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 147	0	-
Stage 1	-	-	-	-	-	-	317	0	-
Stage 2	-	-	-	-	-	-	682	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.9	0	139.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT
Capacity (veh/h)	147	719	1166	-	-
HCM Lane V/C Ratio	1.158	0.08	0.216	-	-
HCM Control Delay (s)	183.6	10.4	8.9	0	-
HCM Lane LOS	F	B	A	A	-
HCM 95th %tile Q(veh)	9.6	0.3	0.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1008	1	8	1029	6	7	26	17	245	8	81
Future Volume (veh/h)	42	1008	1	8	1029	6	7	26	17	245	8	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	1084	4	18	1156	10	14	32	36	285	9	99
Peak Hour Factor	0.60	0.93	0.25	0.44	0.89	0.62	0.50	0.82	0.47	0.86	0.88	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	1282	5	21	1203	10	44	78	311	66	0	311
Arrive On Green	0.05	0.69	0.69	0.01	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1862	7	1781	1851	16	0	396	1585	0	0	1585
Grp Volume(v), veh/h	70	0	1088	18	0	1166	46	0	36	294	0	99
Grp Sat Flow(s),veh/h/ln	1781	0	1869	1781	0	1867	396	0	1585	0	0	1585
Q Serve(g_s), s	4.2	0.0	46.6	1.1	0.0	62.5	0.0	0.0	2.0	0.0	0.0	5.8
Cycle Q Clear(g_c), s	4.2	0.0	46.6	1.1	0.0	62.5	21.1	0.0	2.0	21.1	0.0	5.8
Prop In Lane	1.00		0.00	1.00		0.01	0.30		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	90	0	1287	21	0	1214	122	0	311	66	0	311
V/C Ratio(X)	0.78	0.00	0.85	0.84	0.00	0.96	0.38	0.00	0.12	4.46	0.00	0.32
Avail Cap(c_a), veh/h	116	0	1287	199	0	1276	122	0	311	66	0	311
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.4	0.0	12.5	53.0	0.0	17.5	36.9	0.0	35.5	53.7	0.0	37.0
Incr Delay (d2), s/veh	21.9	0.0	5.4	55.4	0.0	16.3	1.9	0.0	0.2	1589.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	15.7	0.8	0.0	25.5	1.1	0.0	0.8	30.9	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.4	0.0	17.9	108.4	0.0	33.8	38.8	0.0	35.7	1643.2	0.0	37.6
LnGrp LOS	E	A	B	F	A	C	D	A	D	F	A	D
Approach Vol, veh/h		1158			1184			82			393	
Approach Delay, s/veh		21.2			35.0			37.4			1238.8	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	74.4		24.6	4.3	78.6		24.6				
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5				
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6				
Max Q Clear Time (g_c+I1), s	6.2	64.5		23.1	3.1	48.6		23.1				
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	8.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			197.3									
HCM 6th LOS			F									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1081	9	21	1174	0	38	5	51	6	6	22
Future Volume (veh/h)	9	1081	9	21	1174	0	38	5	51	6	6	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1114	18	47	1210	0	69	10	70	19	14	32
Peak Hour Factor	0.50	0.97	0.50	0.45	0.97	0.92	0.55	0.50	0.73	0.31	0.42	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	1183	19	60	1247	0	67	5	334	57	28	334
Arrive On Green	0.01	0.64	0.64	0.03	0.67	0.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	1835	30	1781	1870	0	0	26	1585	0	131	1585
Grp Volume(v), veh/h	18	0	1132	47	1210	0	79	0	70	33	0	32
Grp Sat Flow(s),veh/h/ln	1781	0	1865	1781	1870	0	26	0	1585	131	0	1585
Q Serve(g_s), s	1.0	0.0	55.0	2.6	61.2	0.0	0.0	0.0	3.7	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.0	0.0	55.0	2.6	61.2	0.0	21.1	0.0	3.7	21.1	0.0	1.6
Prop In Lane	1.00		0.02	1.00		0.00	0.87		1.00	0.58		1.00
Lane Grp Cap(c), veh/h	21	0	1202	60	1247	0	73	0	334	84	0	334
V/C Ratio(X)	0.85	0.00	0.94	0.78	0.97	0.00	1.09	0.00	0.21	0.39	0.00	0.10
Avail Cap(c_a), veh/h	213	0	1274	213	1277	0	73	0	334	84	0	334
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.4	0.0	16.1	48.0	15.8	0.0	48.5	0.0	32.6	33.7	0.0	31.8
Incr Delay (d2), s/veh	56.9	0.0	13.3	19.0	18.3	0.0	131.0	0.0	0.3	2.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	21.3	1.4	24.4	0.0	4.5	0.0	1.4	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.3	0.0	29.3	67.0	34.1	0.0	179.5	0.0	33.0	36.6	0.0	32.0
LnGrp LOS	F	A	C	E	C	A	F	A	C	D	A	C
Approach Vol, veh/h		1150			1257			149			65	
Approach Delay, s/veh		30.5			35.3			110.6			34.3	
Approach LOS		C			D			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	71.4		24.6	6.4	69.2		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	3.0	63.2		23.1	4.6	57.0		23.1
Green Ext Time (p_c), s	0.0	3.6		0.0	0.0	6.1		0.0

Intersection Summary	
HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	13.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	105	956	46	32	1431
Future Vol, veh/h	81	105	956	46	32	1431
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	Free	-	Free
Storage Length	0	50	-	340	330	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	88	114	1039	50	35	1555

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1887	520	0	-	1039	0
Stage 1	1039	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 62	501	-	0	665	-
Stage 1	302	-	-	0	-	-
Stage 2	380	-	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	~ 59	501	-	-	665	-
Mov Cap-2 Maneuver	~ 59	-	-	-	-	-
Stage 1	302	-	-	-	-	-
Stage 2	360	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	185.5	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	59	501	665	-
HCM Lane V/C Ratio	-	1.492	0.228	0.052	-
HCM Control Delay (s)	-	$ 407.5	14.3	10.7	-
HCM Lane LOS	-	F	B	B	-
HCM 95th %tile Q(veh)	-	7.8	0.9	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	44	35	71	66	24
Future Vol, veh/h	31	44	35	71	66	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	48	38	77	72	26

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	195	19	0	0	115	0
Stage 1	38	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	776	1055	-	-	1472	-
Stage 1	980	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	738	1055	-	-	1472	-
Mov Cap-2 Maneuver	726	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	5.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	1472	-
HCM Lane V/C Ratio	-	-	0.092	0.049	-
HCM Control Delay (s)	-	-	9.5	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	2	267	0	0	0	0	318	88	9	195	0
Future Vol, veh/h	32	2	267	0	0	0	0	318	88	9	195	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	37	50	80	100	100	100	89	84	74	67	86	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	4	334	0	0	0	0	379	119	13	227	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	692	751	227				-	0	0	498	0	0
Stage 1	253	253	-				-	-	-	-	-	-
Stage 2	439	498	-				-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22				-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-				-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318				-	-	-	2.218	-	-
Pot Cap-1 Maneuver	410	340	812				0	-	-	1066	-	0
Stage 1	789	698	-				0	-	-	-	-	0
Stage 2	650	544	-				0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	404	0	812				-	-	-	1066	-	-
Mov Cap-2 Maneuver	404	0	-				-	-	-	-	-	-
Stage 1	789	0	-				-	-	-	-	-	-
Stage 2	641	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	404	812	1066	-
HCM Lane V/C Ratio	-	-	0.224	0.411	0.013	-
HCM Control Delay (s)	-	-	16.5	12.5	8.4	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	2	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	141	264	39	188	268
Future Vol, veh/h	19	141	264	39	188	268
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	67	76	70	65	90	72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	186	377	60	209	372

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	981	189	0	0	437	0
Stage 1	377	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	247	821	-	-	1119	-
Stage 1	663	-	-	-	-	-
Stage 2	508	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	201	821	-	-	1119	-
Mov Cap-2 Maneuver	316	-	-	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	413	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	3.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	316	821	1119	-
HCM Lane V/C Ratio	-	-	0.09	0.226	0.187	-
HCM Control Delay (s)	-	-	17.5	10.7	9	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.9	0.7	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	81	108	220	102	71	234
Future Vol, veh/h	81	108	220	102	71	234
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	84	84	74	57	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	91	129	262	138	125	266

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	645	131	0	0	400	0
Stage 1	262	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	405	894	-	-	1155	-
Stage 1	758	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	361	894	-	-	1155	-
Mov Cap-2 Maneuver	461	-	-	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	588	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	461	894	1155	-
HCM Lane V/C Ratio	-	-	0.197	0.144	0.108	-
HCM Control Delay (s)	-	-	14.7	9.7	8.5	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.5	0.4	-

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	106	135	207	41	56	218
Future Vol, veh/h	106	135	207	41	56	218
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	62	82	82	85	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	218	252	50	66	234

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	618	-	0	-	252	0
Stage 1	252	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	453	0	-	0	1313	-
Stage 1	790	0	-	0	-	-
Stage 2	702	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	430	-	-	-	1313	-
Mov Cap-2 Maneuver	430	-	-	-	-	-
Stage 1	790	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	430	-	1313	-
HCM Lane V/C Ratio	-	0.301	-	0.05	-
HCM Control Delay (s)	-	16.9	0	7.9	-
HCM Lane LOS	-	C	A	A	-
HCM 95th %tile Q(veh)	-	1.2	-	0.2	-

Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	98	0	5	303	74	0	0	101	35
Future Vol, veh/h	0	0	0	98	0	5	303	74	0	0	101	35
Peak Hour Factor	0.92	0.92	0.92	0.64	0.92	0.50	0.96	0.64	0.92	0.92	0.79	0.54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	153	0	10	316	116	0	0	128	65
Number of Lanes	0	0	0	0	1	1	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	11.6	14.5	9.6
HCM LOS	B	B	A

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	80%	100%	0%	0%
Vol Thru, %	20%	0%	0%	74%
Vol Right, %	0%	0%	100%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	377	98	5	136
LT Vol	303	98	0	0
Through Vol	74	0	0	101
RT Vol	0	0	5	35
Lane Flow Rate	431	153	10	193
Geometry Grp	2	7	7	2
Degree of Util (X)	0.581	0.28	0.015	0.258
Departure Headway (Hd)	4.846	6.585	5.369	4.821
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	737	550	671	736
Service Time	2.911	4.285	3.069	2.905
HCM Lane V/C Ratio	0.585	0.278	0.015	0.262
HCM Control Delay	14.5	11.8	8.2	9.6
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	3.8	1.1	0	1

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	82	130	6	331	0	0	0	0	15	0	121
Future Vol, veh/h	0	82	130	6	331	0	0	0	0	15	0	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	77	77	50	81	92	92	92	92	81	92	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	106	169	12	409	0	0	0	0	19	0	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	275	0	0			624	708	409
Stage 1	-	-	-	-	-	-			433	433	-
Stage 2	-	-	-	-	-	-			191	275	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1288	-	0			449	360	642
Stage 1	0	-	-	-	-	0			654	582	-
Stage 2	0	-	-	-	-	0			841	683	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1288	-	-			444	0	642
Mov Cap-2 Maneuver	-	-	-	-	-	-			444	0	-
Stage 1	-	-	-	-	-	-			654	0	-
Stage 2	-	-	-	-	-	-			831	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.2	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1288	-	444	642
HCM Lane V/C Ratio	-	-	0.009	-	0.042	0.222
HCM Control Delay (s)	-	-	7.8	0	13.5	12.2
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.1	0.8

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	47	0	0	107	29	230	1	2	0	0	0
Future Vol, veh/h	51	47	0	0	107	29	230	1	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	85	92	92	70	62	88	25	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	55	0	0	153	47	261	4	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	200	0	-	-	-	0	342	365	55
Stage 1	-	-	-	-	-	-	165	165	-
Stage 2	-	-	-	-	-	-	177	200	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1372	-	0	0	-	-	654	563	1012
Stage 1	-	-	0	0	-	-	864	762	-
Stage 2	-	-	0	0	-	-	854	736	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1372	-	-	-	-	-	627	0	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	627	0	-
Stage 1	-	-	-	-	-	-	829	0	-
Stage 2	-	-	-	-	-	-	854	0	-

Approach	EB	WB	NB
HCM Control Delay, s	3.9	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	627	1012	1372	-	-	-
HCM Lane V/C Ratio	0.423	0.004	0.04	-	-	-
HCM Control Delay (s)	14.9	8.6	7.7	0	-	-
HCM Lane LOS	B	A	A	A	-	-
HCM 95th %tile Q(veh)	2.1	0	0.1	-	-	-

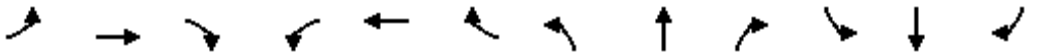
Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	387	101	83	497	0	0	0	0	56	1	174
Future Vol, veh/h	0	387	101	83	497	0	0	0	0	56	1	174
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	76	70	92	92	92	92	92	82	25	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	421	133	119	540	0	0	0	0	68	4	212

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	421	0	0			1199	1199	540
Stage 1	-	-	-	-	-	-			778	778	-
Stage 2	-	-	-	-	-	-			421	421	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1138	-	0			205	185	542
Stage 1	0	-	0	-	-	0			453	407	-
Stage 2	0	-	0	-	-	0			662	589	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1138	-	-			174	0	542
Mov Cap-2 Maneuver	-	-	-	-	-	-			174	0	-
Stage 1	-	-	-	-	-	-			453	0	-
Stage 2	-	-	-	-	-	-			563	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.5	21.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1138	-	174	542
HCM Lane V/C Ratio	-	0.104	-	0.415	0.392
HCM Control Delay (s)	-	8.5	0	39.7	15.9
HCM Lane LOS	-	A	A	E	C
HCM 95th %tile Q(veh)	-	0.3	-	1.9	1.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	278	0	0	385	70	191	0	69	0	0	0
Future Volume (veh/h)	164	278	0	0	385	70	191	0	69	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	189	343	0	0	470	0	239	0	90			
Peak Hour Factor	0.87	0.81	0.92	0.92	0.82	0.80	0.80	0.92	0.77			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	314	457	0	0	930		391	0	348			
Arrive On Green	0.50	0.50	0.00	0.00	0.50	0.00	0.22	0.00	0.22			
Sat Flow, veh/h	322	918	0	0	1870	1585	1781	0	1585			
Grp Volume(v), veh/h	532	0	0	0	470	0	239	0	90			
Grp Sat Flow(s),veh/h/ln	1240	0	0	0	1870	1585	1781	0	1585			
Q Serve(g_s), s	7.2	0.0	0.0	0.0	5.4	0.0	3.8	0.0	1.5			
Cycle Q Clear(g_c), s	12.6	0.0	0.0	0.0	5.4	0.0	3.8	0.0	1.5			
Prop In Lane	0.36		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	770	0	0	0	930		391	0	348			
V/C Ratio(X)	0.69	0.00	0.00	0.00	0.51		0.61	0.00	0.26			
Avail Cap(c_a), veh/h	866	0	0	0	1060		1010	0	898			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	7.2	0.0	0.0	0.0	5.4	0.0	11.2	0.0	10.3			
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.4	0.0	1.6	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.0	0.9	0.0	1.0	0.0	0.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.3	0.0	0.0	0.0	5.8	0.0	12.7	0.0	10.7			
LnGrp LOS	A	A	A	A	A		B	A	B			
Approach Vol, veh/h		532			470	A		329				
Approach Delay, s/veh		9.3			5.8			12.2				
Approach LOS		A			A			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		11.5		20.3				20.3				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		18.0		18.0				18.0				
Max Q Clear Time (g_c+I1), s		5.8		14.6				7.4				
Green Ext Time (p_c), s		1.1		1.2				2.1				

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	934	0	13	1077	6	3	36	17	239	7	51
Future Volume (veh/h)	40	934	0	13	1077	6	3	36	17	239	7	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	1049	0	19	1134	10	4	65	27	295	9	72
Peak Hour Factor	0.65	0.89	0.92	0.69	0.95	0.62	0.75	0.55	0.62	0.81	0.75	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	1267	0	23	1195	11	37	273	322	68	0	322
Arrive On Green	0.04	0.68	0.00	0.01	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1870	0	1781	1851	16	0	1347	1585	0	0	1585
Grp Volume(v), veh/h	62	1049	0	19	0	1144	69	0	27	304	0	72
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1781	0	1867	1347	0	1585	0	0	1585
Q Serve(g_s), s	3.6	42.8	0.0	1.1	0.0	58.3	0.0	0.0	1.4	0.0	0.0	3.9
Cycle Q Clear(g_c), s	3.6	42.8	0.0	1.1	0.0	58.3	21.1	0.0	1.4	21.1	0.0	3.9
Prop In Lane	1.00		0.00	1.00		0.01	0.06		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	80	1267	0	23	0	1205	310	0	322	68	0	322
V/C Ratio(X)	0.78	0.83	0.00	0.84	0.00	0.95	0.22	0.00	0.08	4.46	0.00	0.22
Avail Cap(c_a), veh/h	120	1267	0	206	0	1318	310	0	322	68	0	322
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.1	12.3	0.0	51.2	0.0	16.9	34.5	0.0	33.6	52.0	0.0	34.6
Incr Delay (d2), s/veh	16.4	4.7	0.0	52.9	0.0	13.8	0.4	0.0	0.1	1588.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	14.4	0.0	0.8	0.0	23.0	1.5	0.0	0.6	31.9	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.5	17.0	0.0	104.2	0.0	30.6	34.8	0.0	33.7	1640.6	0.0	35.0
LnGrp LOS	E	B	A	F	A	C	C	A	C	F	A	C
Approach Vol, veh/h		1111			1163			96			376	
Approach Delay, s/veh		19.7			31.8			34.5			1333.1	
Approach LOS		B			C			C			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.7	71.7		24.6	4.3	75.1		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	5.6	60.3		23.1	3.1	44.8		23.1
Green Ext Time (p_c), s	0.0	6.8		0.0	0.0	8.1		0.0

Intersection Summary	
HCM 6th Ctrl Delay	205.2
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1012	13	22	1164	3	36	1	63	6	9	18
Future Volume (veh/h)	1	1012	13	22	1164	3	36	1	63	6	9	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	1112	24	37	1188	8	78	4	78	10	13	36
Peak Hour Factor	0.25	0.91	0.55	0.59	0.98	0.38	0.46	0.25	0.81	0.62	0.67	0.50
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	4	1174	25	47	1239	8	72	2	343	53	50	343
Arrive On Green	0.00	0.64	0.64	0.03	0.67	0.67	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1781	1824	39	1781	1856	12	0	9	1585	0	230	1585
Grp Volume(v), veh/h	4	0	1136	37	0	1196	82	0	78	23	0	36
Grp Sat Flow(s),veh/h/ln	1781	0	1863	1781	0	1868	9	0	1585	230	0	1585
Q Serve(g_s), s	0.2	0.0	54.3	2.0	0.0	57.7	0.0	0.0	4.0	0.0	0.0	1.8
Cycle Q Clear(g_c), s	0.2	0.0	54.3	2.0	0.0	57.7	21.1	0.0	4.0	21.1	0.0	1.8
Prop In Lane	1.00		0.02	1.00		0.01	0.95		1.00	0.43		1.00
Lane Grp Cap(c), veh/h	4	0	1199	47	0	1247	74	0	343	103	0	343
V/C Ratio(X)	0.96	0.00	0.95	0.79	0.00	0.96	1.11	0.00	0.23	0.22	0.00	0.10
Avail Cap(c_a), veh/h	219	0	1307	219	0	1310	74	0	343	103	0	343
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	15.9	47.2	0.0	15.0	48.2	0.0	31.5	32.1	0.0	30.6
Incr Delay (d2), s/veh	192.3	0.0	13.6	25.1	0.0	15.7	137.2	0.0	0.3	1.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	21.0	1.2	0.0	22.1	4.6	0.0	1.6	0.5	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	241.0	0.0	29.5	72.3	0.0	30.7	185.4	0.0	31.8	33.2	0.0	30.8
LnGrp LOS	F	A	C	E	A	C	F	A	C	C	A	C
Approach Vol, veh/h		1140			1233			160			59	
Approach Delay, s/veh		30.2			32.0			110.5			31.7	
Approach LOS		C			C			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	3.2	69.7		24.6	5.6	67.4		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	2.2	59.7		23.1	4.0	56.3		23.1
Green Ext Time (p_c), s	0.0	5.4		0.0	0.0	6.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	81	151	1059	23	44	971
Future Volume (veh/h)	81	151	1059	23	44	971
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	0	1151	0	48	1055
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	163		1947		450	1947
Arrive On Green	0.09	0.00	0.55	0.00	0.55	0.55
Sat Flow, veh/h	1781	1585	3647	1585	488	3647
Grp Volume(v), veh/h	88	0	1151	0	48	1055
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	488	1777
Q Serve(g_s), s	1.2	0.0	5.4	0.0	1.8	4.8
Cycle Q Clear(g_c), s	1.2	0.0	5.4	0.0	7.2	4.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	163		1947		450	1947
V/C Ratio(X)	0.54		0.59		0.11	0.54
Avail Cap(c_a), veh/h	1285		2564		535	2564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	10.8	0.0	3.8	0.0	6.2	3.6
Incr Delay (d2), s/veh	2.8	0.0	0.3	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.1	0.0	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.6	0.0	4.1	0.0	6.3	3.9
LnGrp LOS	B		A		A	A
Approach Vol, veh/h	88	A	1151	A		1103
Approach Delay, s/veh	13.6		4.1			4.0
Approach LOS	B		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	18.2			18.2	6.8
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.0			18.0	18.0
Max Q Clear Time (g_c+I1), s	7.4			9.2	3.2
Green Ext Time (p_c), s	5.1			4.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	4.4
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, WBR, SBT] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	44	35	71	66	24
Future Vol, veh/h	31	44	35	71	66	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	48	38	77	72	26

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	195	19	0	0	115	0
Stage 1	38	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	776	1055	-	-	1472	-
Stage 1	980	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	738	1055	-	-	1472	-
Mov Cap-2 Maneuver	726	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	5.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	1472	-
HCM Lane V/C Ratio	-	-	0.092	0.049	-
HCM Control Delay (s)	-	-	9.5	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	0	257	0	0	0	0	364	69	5	138	0
Future Vol, veh/h	21	0	257	0	0	0	0	364	69	5	138	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	25	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	100	100	100	89	89	89	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	0	329	0	0	0	0	409	78	6	170	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	630	669	170	-	0	0	487	0	0
Stage 1	182	182	-	-	-	-	-	-	-
Stage 2	448	487	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	446	379	874	0	-	-	1076	-	0
Stage 1	849	749	-	0	-	-	-	-	0
Stage 2	644	550	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	443	0	874	-	-	-	1076	-	-
Mov Cap-2 Maneuver	443	0	-	-	-	-	-	-	-
Stage 1	849	0	-	-	-	-	-	-	-
Stage 2	640	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	443	874	1076	-
HCM Lane V/C Ratio	-	-	0.061	0.377	0.006	-
HCM Control Delay (s)	-	-	13.7	11.6	8.4	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	1.8	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	112	286	53	180	243
Future Vol, veh/h	26	112	286	53	180	243
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	450	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	70	70	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	138	409	76	225	304

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1011	205	0	0	485	0
Stage 1	409	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	236	802	-	-	1074	-
Stage 1	639	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	187	802	-	-	1074	-
Mov Cap-2 Maneuver	304	-	-	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	403	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	3.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	304	802	1074	-
HCM Lane V/C Ratio	-	-	0.106	0.172	0.209	-
HCM Control Delay (s)	-	-	18.2	10.4	9.2	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.8	-

Intersection	
Int Delay, s/veh	3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	105	238	120	61	202
Future Vol, veh/h	74	105	238	120	61	202
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	75	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	74	74	94	94	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	100	142	253	128	68	224

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	501	127	0	0	381	0
Stage 1	253	-	-	-	-	-
Stage 2	248	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	499	900	-	-	1174	-
Stage 1	766	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	470	900	-	-	1174	-
Mov Cap-2 Maneuver	554	-	-	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	554	900	1174	-
HCM Lane V/C Ratio	-	-	0.181	0.158	0.058	-
HCM Control Delay (s)	-	-	12.9	9.7	8.3	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.6	0.2	-

Intersection	
Int Delay, s/veh	3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	94	206	181	54	60	180
Future Vol, veh/h	94	206	181	54	60	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Free	-	Free	-	None
Storage Length	0	330	-	395	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	86	86	98	98	82	82
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	240	185	55	73	220

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	551	-	0	-	185	0
Stage 1	185	-	-	-	-	-
Stage 2	366	-	-	-	-	-
Critical Hdwy	6.42	-	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	-	-	-	2.218	-
Pot Cap-1 Maneuver	495	0	-	0	1390	-
Stage 1	847	0	-	0	-	-
Stage 2	702	0	-	0	-	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	469	-	-	-	1390	-
Mov Cap-2 Maneuver	469	-	-	-	-	-
Stage 1	847	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	1.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	469	-	1390	-
HCM Lane V/C Ratio	-	0.233	-	0.053	-
HCM Control Delay (s)	-	15	0	7.7	-
HCM Lane LOS	-	C	A	A	-
HCM 95th %tile Q(veh)	-	0.9	-	0.2	-

Intersection	
Intersection Delay, s/veh	14
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	106	0	5	354	38	0	0	69	39
Future Vol, veh/h	0	0	0	106	0	5	354	38	0	0	69	39
Peak Hour Factor	0.92	0.92	0.92	0.66	0.92	0.50	0.88	0.52	0.92	0.92	0.68	0.65
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	161	0	10	402	73	0	0	101	60
Number of Lanes	0	0	0	0	1	1	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	11.9	16.3	9.3
HCM LOS	B	C	A

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	90%	100%	0%	0%
Vol Thru, %	10%	0%	0%	64%
Vol Right, %	0%	0%	100%	36%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	392	106	5	108
LT Vol	354	106	0	0
Through Vol	38	0	0	69
RT Vol	0	0	5	39
Lane Flow Rate	475	161	10	161
Geometry Grp	2	7	7	2
Degree of Util (X)	0.641	0.296	0.015	0.217
Departure Headway (Hd)	4.857	6.63	5.414	4.842
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	737	546	665	731
Service Time	2.924	4.33	3.114	2.935
HCM Lane V/C Ratio	0.645	0.295	0.015	0.22
HCM Control Delay	16.3	12.1	8.2	9.3
HCM Lane LOS	C	B	A	A
HCM 95th-tile Q	4.7	1.2	0	0.8

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	78	130	2	313	0	0	0	0	17	1	102
Future Vol, veh/h	0	78	130	2	313	0	0	0	0	17	1	102
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	25
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	89	82	50	85	92	92	92	92	54	25	72
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	88	159	4	368	0	0	0	0	31	4	142

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	0	247	0	0			544	623	368
Stage 1	-	-	-	-	-	-			376	376	-
Stage 2	-	-	-	-	-	-			168	247	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	-	1319	-	0			500	402	677
Stage 1	0	-	-	-	-	0			694	616	-
Stage 2	0	-	-	-	-	0			862	702	-
Platoon blocked, %		-	-		-						
Mov Cap-1 Maneuver	-	-	-	1319	-	-			498	0	677
Mov Cap-2 Maneuver	-	-	-	-	-	-			498	0	-
Stage 1	-	-	-	-	-	-			694	0	-
Stage 2	-	-	-	-	-	-			859	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.1	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	1319	-	498	677
HCM Lane V/C Ratio	-	-	0.003	-	0.071	0.209
HCM Control Delay (s)	-	-	7.7	0	12.8	11.7
HCM Lane LOS	-	-	A	A	B	B
HCM 95th %tile Q(veh)	-	-	0	-	0.2	0.8

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	41	0	0	99	24	232	5	2	0	0	0
Future Vol, veh/h	51	41	0	0	99	24	232	5	2	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	25	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	16965	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	69	69	92	92	72	66	83	50	50	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	59	0	0	138	36	280	10	4	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	174	0	-	-	-	0	363	381	59
Stage 1	-	-	-	-	-	-	207	207	-
Stage 2	-	-	-	-	-	-	156	174	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1403	-	0	0	-	-	636	552	1007
Stage 1	-	-	0	0	-	-	828	731	-
Stage 2	-	-	0	0	-	-	872	755	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1403	-	-	-	-	-	601	0	1007
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	0	-
Stage 1	-	-	-	-	-	-	782	0	-
Stage 2	-	-	-	-	-	-	872	0	-

Approach	EB	WB	NB
HCM Control Delay, s	4.3	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	601	1007	1403	-	-	-
HCM Lane V/C Ratio	0.482	0.004	0.053	-	-	-
HCM Control Delay (s)	16.4	8.6	7.7	0	-	-
HCM Lane LOS	C	A	A	A	-	-
HCM 95th %tile Q(veh)	2.6	0	0.2	-	-	-

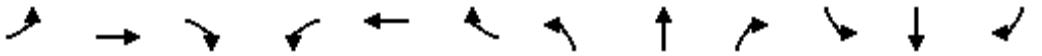
Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↱		↰						↰	↱
Traffic Vol, veh/h	0	440	94	68	446	0	0	0	0	49	0	200
Future Vol, veh/h	0	440	94	68	446	0	0	0	0	49	0	200
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	16974	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	85	91	97	92	92	92	92	67	92	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	478	111	75	460	0	0	0	0	73	0	215

Major/Minor	Major1			Major2					Minor2		
Conflicting Flow All	-	0	-	478	0	0			1088	1088	460
Stage 1	-	-	-	-	-	-			610	610	-
Stage 2	-	-	-	-	-	-			478	478	-
Critical Hdwy	-	-	-	4.12	-	-			6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-			5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-			5.42	5.52	-
Follow-up Hdwy	-	-	-	2.218	-	-			3.518	4.018	3.318
Pot Cap-1 Maneuver	0	-	0	1084	-	0			239	216	601
Stage 1	0	-	0	-	-	0			542	485	-
Stage 2	0	-	0	-	-	0			624	556	-
Platoon blocked, %		-			-						
Mov Cap-1 Maneuver	-	-	-	1084	-	-			217	0	601
Mov Cap-2 Maneuver	-	-	-	-	-	-			217	0	-
Stage 1	-	-	-	-	-	-			542	0	-
Stage 2	-	-	-	-	-	-			566	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.2	18.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBL	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	1084	-	217	601
HCM Lane V/C Ratio	-	0.069	-	0.337	0.358
HCM Control Delay (s)	-	8.6	0	29.8	14.3
HCM Lane LOS	-	A	A	D	B
HCM 95th %tile Q(veh)	-	0.2	-	1.4	1.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	280	0	0	369	71	143	1	48	0	0	0
Future Volume (veh/h)	214	280	0	0	369	71	143	1	48	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	252	322	0	0	393	0	166	4	58			
Peak Hour Factor	0.85	0.87	0.92	0.92	0.94	0.78	0.86	0.25	0.83			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	407	424	0	0	981		310	7	282			
Arrive On Green	0.52	0.52	0.00	0.00	0.52	0.00	0.18	0.18	0.18			
Sat Flow, veh/h	448	809	0	0	1870	1585	1741	42	1585			
Grp Volume(v), veh/h	574	0	0	0	393	0	170	0	58			
Grp Sat Flow(s),veh/h/ln	1257	0	0	0	1870	1585	1783	0	1585			
Q Serve(g_s), s	8.7	0.0	0.0	0.0	3.8	0.0	2.6	0.0	0.9			
Cycle Q Clear(g_c), s	12.5	0.0	0.0	0.0	3.8	0.0	2.6	0.0	0.9			
Prop In Lane	0.44		0.00	0.00		1.00	0.98		1.00			
Lane Grp Cap(c), veh/h	831	0	0	0	981		317	0	282			
V/C Ratio(X)	0.69	0.00	0.00	0.00	0.40		0.54	0.00	0.21			
Avail Cap(c_a), veh/h	926	0	0	0	1114		1062	0	944			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	6.5	0.0	0.0	0.0	4.3	0.0	11.3	0.0	10.6			
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.0	0.3	0.0	1.4	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.0	0.5	0.0	0.7	0.0	0.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.5	0.0	0.0	0.0	4.6	0.0	12.7	0.0	11.0			
LnGrp LOS	A	A	A	A	A		B	A	B			
Approach Vol, veh/h		574			393	A		228				
Approach Delay, s/veh		8.5			4.6			12.3				
Approach LOS		A			A			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		9.9		20.4				20.4				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		18.0		18.0				18.0				
Max Q Clear Time (g_c+I1), s		4.6		14.5				5.8				
Green Ext Time (p_c), s		0.8		1.3				1.8				

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	1008	1	8	1029	6	7	26	17	245	8	81
Future Volume (veh/h)	42	1008	1	8	1029	6	7	26	17	245	8	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	1084	4	18	1156	10	14	32	36	285	9	99
Peak Hour Factor	0.60	0.93	0.25	0.44	0.89	0.62	0.50	0.82	0.47	0.86	0.88	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	1282	5	21	1203	10	44	78	311	66	0	311
Arrive On Green	0.05	0.69	0.69	0.01	0.65	0.65	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	1862	7	1781	1851	16	0	396	1585	0	0	1585
Grp Volume(v), veh/h	70	0	1088	18	0	1166	46	0	36	294	0	99
Grp Sat Flow(s),veh/h/ln	1781	0	1869	1781	0	1867	396	0	1585	0	0	1585
Q Serve(g_s), s	4.2	0.0	46.6	1.1	0.0	62.5	0.0	0.0	2.0	0.0	0.0	5.8
Cycle Q Clear(g_c), s	4.2	0.0	46.6	1.1	0.0	62.5	21.1	0.0	2.0	21.1	0.0	5.8
Prop In Lane	1.00		0.00	1.00		0.01	0.30		1.00	0.97		1.00
Lane Grp Cap(c), veh/h	90	0	1287	21	0	1214	122	0	311	66	0	311
V/C Ratio(X)	0.78	0.00	0.85	0.84	0.00	0.96	0.38	0.00	0.12	4.46	0.00	0.32
Avail Cap(c_a), veh/h	116	0	1287	199	0	1276	122	0	311	66	0	311
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.4	0.0	12.5	53.0	0.0	17.5	36.9	0.0	35.5	53.7	0.0	37.0
Incr Delay (d2), s/veh	21.9	0.0	5.4	55.4	0.0	16.3	1.9	0.0	0.2	1589.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	15.7	0.8	0.0	25.5	1.1	0.0	0.8	30.9	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.4	0.0	17.9	108.4	0.0	33.8	38.8	0.0	35.7	1643.2	0.0	37.6
LnGrp LOS	E	A	B	F	A	C	D	A	D	F	A	D
Approach Vol, veh/h		1158			1184			82			393	
Approach Delay, s/veh		21.2			35.0			37.4			1238.8	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.4	74.4		24.6	4.3	78.6		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	7.0	73.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	6.2	64.5		23.1	3.1	48.6		23.1
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	8.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	197.3
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	1081	9	21	1174	0	38	5	51	6	6	22
Future Volume (veh/h)	9	1081	9	21	1174	0	38	5	51	6	6	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, 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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1114	18	47	1210	0	69	10	70	19	14	32
Peak Hour Factor	0.50	0.97	0.50	0.45	0.97	0.92	0.55	0.50	0.73	0.31	0.42	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	21	1183	19	60	1247	0	67	5	334	57	28	334
Arrive On Green	0.01	0.64	0.64	0.03	0.67	0.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1781	1835	30	1781	1870	0	0	26	1585	0	131	1585
Grp Volume(v), veh/h	18	0	1132	47	1210	0	79	0	70	33	0	32
Grp Sat Flow(s),veh/h/ln	1781	0	1865	1781	1870	0	26	0	1585	131	0	1585
Q Serve(g_s), s	1.0	0.0	55.0	2.6	61.2	0.0	0.0	0.0	3.7	0.0	0.0	1.6
Cycle Q Clear(g_c), s	1.0	0.0	55.0	2.6	61.2	0.0	21.1	0.0	3.7	21.1	0.0	1.6
Prop In Lane	1.00		0.02	1.00		0.00	0.87		1.00	0.58		1.00
Lane Grp Cap(c), veh/h	21	0	1202	60	1247	0	73	0	334	84	0	334
V/C Ratio(X)	0.85	0.00	0.94	0.78	0.97	0.00	1.09	0.00	0.21	0.39	0.00	0.10
Avail Cap(c_a), veh/h	213	0	1274	213	1277	0	73	0	334	84	0	334
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.4	0.0	16.1	48.0	15.8	0.0	48.5	0.0	32.6	33.7	0.0	31.8
Incr Delay (d2), s/veh	56.9	0.0	13.3	19.0	18.3	0.0	131.0	0.0	0.3	2.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	21.3	1.4	24.4	0.0	4.5	0.0	1.4	0.7	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	106.3	0.0	29.3	67.0	34.1	0.0	179.5	0.0	33.0	36.6	0.0	32.0
LnGrp LOS	F	A	C	E	C	A	F	A	C	D	A	C
Approach Vol, veh/h		1150			1257			149			65	
Approach Delay, s/veh		30.5			35.3			110.6			34.3	
Approach LOS		C			D			F			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.2	71.4		24.6	6.4	69.2		24.6
Change Period (Y+Rc), s	3.0	4.6		* 3.5	3.0	4.6		3.5
Max Green Setting (Gmax), s	12.0	68.4		* 21	12.0	68.4		20.6
Max Q Clear Time (g_c+I1), s	3.0	63.2		23.1	4.6	57.0		23.1
Green Ext Time (p_c), s	0.0	3.6		0.0	0.0	6.1		0.0

Intersection Summary	
HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	81	105	956	46	32	1431
Future Volume (veh/h)	81	105	956	46	32	1431
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	0	1039	0	35	1555
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	159		2072		485	2072
Arrive On Green	0.09	0.00	0.58	0.00	0.58	0.58
Sat Flow, veh/h	1781	1585	3647	1585	543	3647
Grp Volume(v), veh/h	88	0	1039	0	35	1555
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	543	1777
Q Serve(g_s), s	1.3	0.0	4.7	0.0	1.1	8.9
Cycle Q Clear(g_c), s	1.3	0.0	4.7	0.0	5.8	8.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	159		2072		485	2072
V/C Ratio(X)	0.55		0.50		0.07	0.75
Avail Cap(c_a), veh/h	1168		2331		525	2331
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	12.0	0.0	3.4	0.0	5.1	4.2
Incr Delay (d2), s/veh	3.0	0.0	0.2	0.0	0.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.1	0.0	0.0	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.0	0.0	3.6	0.0	5.2	5.5
LnGrp LOS	B		A		A	A
Approach Vol, veh/h	88	A	1039	A		1590
Approach Delay, s/veh	15.0		3.6			5.5
Approach LOS	B		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	20.5			20.5	6.9
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	18.0			18.0	18.0
Max Q Clear Time (g_c+I1), s	6.7			10.9	3.3
Green Ext Time (p_c), s	4.8			5.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	5.0
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, WBR, SBT] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	44	35	71	66	24
Future Vol, veh/h	31	44	35	71	66	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	125	125	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	48	38	77	72	26

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	195	19	0	0	115	0
Stage 1	38	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	776	1055	-	-	1472	-
Stage 1	980	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	738	1055	-	-	1472	-
Mov Cap-2 Maneuver	726	-	-	-	-	-
Stage 1	980	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	5.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	1472	-
HCM Lane V/C Ratio	-	-	0.092	0.049	-
HCM Control Delay (s)	-	-	9.5	7.6	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Attachment C

Traffic Signal Peak-Hour Warrant Analysis

TRAFFIC SIGNAL WARRANT ANALYSIS

City/County:	Marysville	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N		
State:	California	Isolated community with a population of less than 10,000? (Y or N)	N	Analyzed by:	Kimley-Horn
Date:	21-Apr-21	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	Analyzed by:	
Major Street:	McGowan Parkway	Approach Lanes - Major? (1 or 2)	1		
Minor Street:	NB SR-70 Ramps	Approach Lanes - Minor? (1 or 2)	2		

Scenario	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A Major Street	Warrant 1, Condition A Minor Street	Warrant 1, Condition B Major Street	Warrant 1, Condition B Minor Street	Warrant 1, Combination Warrant 80% of 1A Major Street	Warrant 1, Combination Warrant 80% of 1A Minor Street	Warrant 1, Combination Warrant 80% of 1B Major Street	Warrant 1, Combination Warrant 80% of 1B Minor Street	Warrant 2	Warrant 3, Condition A Minor Delay	Warrant 3, Condition A Minor Volume	Warrant 3, Condition A Total Intrsctn	Warrant 3, Condition B
Weekday PM Peak Hour															
Existing (2020)	868	247													74%
Opening Year (2021)	891	255													78%
Opening Year (2021) PP	897	260													80%
Weekend PM Peak Hour															
Existing (2020)	905	179													55%
Opening Year (2021)	928	187													60%
Opening Year (2021) PP	934	192													62%
Source:	MUTCD, 2011 Edition		Threshold	500 200	Threshold	750 100	Threshold	400 160	Threshold	600 80	MUTCD Figure	Warranting Volumes			MUTCD Figure
Created By:	Kimley-Horn and Associates, Inc.		Summary		Summary		Summary		Summary		4C-1 and 4C-2				4C-3 and 4C-4
			TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	Summary	Summary			Summary
			Met?	NO	Met?	NO	TOTAL	0	Met?	NO	TOTAL 0	TOTAL			TOTAL 0
											Met? NO	Met?			Met? No

COMMENTS/NOTES:	COMMENTS/NOTES:
Warrant 3: Peak Hour Traffic Signal Warrant Analysis	

TRAFFIC SIGNAL WARRANT ANALYSIS

City/County:	Marysville	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N		
State:	California	Isolated community with a population of less than 10,000? (Y or N)	N	Analyzed by:	Kimley-Horn
Date:	21-Apr-21	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	Analyzed by:	
Major Street:	SR-65	Approach Lanes - Major? (1 or 2)	2		
Minor Street:	South Beale Road	Approach Lanes - Minor? (1 or 2)	2		

Scenario	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A Major Street	Warrant 1, Condition A Minor Street	Warrant 1, Condition B Major Street	Warrant 1, Condition B Minor Street	Warrant 1, Combination Warrant 80% of 1A Major Street	Warrant 1, Combination Warrant 80% of 1A Minor Street	Warrant 1, Combination Warrant 80% of 1B Major Street	Warrant 1, Combination Warrant 80% of 1B Minor Street	Warrant 2	Warrant 3, Condition A Minor Delay	Warrant 3, Condition A Minor Volume	Warrant 3, Condition A Total Intrsctn	Warrant 3, Condition B
Weekday PM Peak Hour															
Existing (2020)	2048	219													146%
Opening Year (2021)	2086	227													151%
Opening Year (2021) PP	2097	232													155%
Weekend PM Peak Hour															
Existing (2020)	2416	173													115%
Opening Year (2021)	2454	181													121%
Opening Year (2021) PP	2465	186													124%
Threshold			600	200	900	100	480	160	720	80	MUTCD Figure 4C-1 and 4C-2	Warranting Volumes			MUTCD Figure 4C-3 and 4C-4
Summary			TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL		TOTAL	6
			Met?	NO	Met?	NO	TOTAL	0	Met?	NO	Met?	NO	Met?		Met?	Yes

Source: MUTCD, 2011 Edition
Created By: Kimley-Horn and Associates, Inc.

COMMENTS/NOTES:	COMMENTS/NOTES:
Warrant 3: Peak Hour Traffic Signal Warrant Analysis	

APPENDIX E

WWTP ENGINEERING REPORT

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ENGINEERING REPORT FOR RECYCLED WATER USE HARD ROCK FIRE MOUNTAIN HOTEL & CASINO

3317 FORTY MILE
WHEATLAND, CA 95692

Prepared For:
California Department of Public Health
and
California Regional Water Quality Control Board -
Central Valley Region



Prepared By:
EPD Consultants, Inc.
20722 Main Street
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Project Number: A531 IWS Hard Rock Fire Mountain

February 6, 2020

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Table of Contents

1 PROJECT OBJECTIVE 1

1.1 Introduction 1
1.2 California Code of Regulations and Water Recycling Criteria 4
1.3 Wastewater Treatment Facility Process Summary 4
1.4 Report Organization 5

2 RECYCLED WATER SYSTEM 6

2.1 General 6
2.2 Rules and Regulations 6
2.3 Producer - Distributor - Users 9
2.4 Raw Wastewater Source 9
2.4.1 Raw Wastewater Quantity 9
2.4.2 Raw Wastewater Quality 10
2.4.3 Projected WWTF Effluent Quality 10
2.4.4 Design Intent 11
2.4.5 Projected Reclaimed Water Quality 12
2.5 Wastewater Treatment Facility Description 13
2.5.1 Influent from Lift Station 14
2.5.2 Lakeside Primary Fine Drum Screen 15
2.5.3 Secondary Fine Screens 15
2.5.4 Carbon Dosed Anoxic Basin 15
2.5.5 Alkalinity Dosed Pre-Aeration Basin 16
2.5.6 Equalization Tank 16
2.5.7 Ovivo microBLOX Membrane Bioreactor Skid 17
2.5.8 Plant Water and Clean in Place (CIP) Tank 20
2.5.9 Effluent Storage 20
2.6 Plant Reliability Features 20
2.6.1 Redundant Treatment Equipment 21
2.6.2 Alarms 22
2.6.3 Power Supply 23
2.7 Supplemental Water Supply 23

3 WASTEWATER TREATMENT FACILITY MONITORING PROGRAM 24

3.1 Monitoring Stations 24
3.2 Required Monitoring 24
3.3 Process Control Monitoring 24
3.4 Parameters to be Monitored 25
3.5 Sampling and Analysis 26
3.6 Records Management 26

4 RECYCLED WATER TRANSMISSION AND DISTRIBUTION SYSTEMS 27

4.1 Recycled Water Distribution System 27
4.1.1 General Pipeline Design Criteria for Separation and Identification 27
4.2 Use Areas 30
4.2.1 Dual Plumbed Use Areas 30
4.2.2 Irrigation 30
4.2.3 Agricultural Pond 31

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4.2.4 Use Area Design *31*
4.2.5 Use Area Inspections and Monitoring *32*
4.2.6 Employee Training *32*

5 CONTINGENCY PLAN 33

5.1 SECURITY 33
5.2 SUPPLY, STORAGE, AND DELIVERY OF CHEMICALS 33
5.3 SPARE PARTS 34
5.4 PREDICTIVE MAINTENANCE 34
5.5 EMERGENCY RESPONSE AND NOTIFICATION PROCEDURES 35

6 REFERENCES 36

List of Tables

TABLE 2-1: ANTICIPATED FLOW 9
TABLE 2-2: ANTICIPATED COMPOSITION OF WASTEWATERS GENERATED ONSITE 10
TABLE 2-3: ANTICIPATED RECLAIMED WATER QUALITY 12
TABLE 2-4: WWTF LOADING RATES 13
TABLE 2-5: FLOAT SWITCH ELEVATIONS AND FUNCTIONS 15
TABLE 2-6: BIOREACTOR DESIGN CRITERIA 19
TABLE 2-7: MEMBRANE DESIGN CRITERIA 19
TABLE 2-8: UV DISINFECTION SYSTEM DESIGN CRITERIA 20
TABLE 2-9: TREATMENT PROCESS TRAIN RELIABILITY 22
TABLE 3-1: MONITORING STATIONS 24
TABLE 3-2: MONITORING PROGRAM 25
TABLE 4-1: PIPELINE DESIGN CRITERIA 27

List of Figures

FIGURE 1-1: LOCATION MAP 2
FIGURE 1-2: PROJECT AREA MAP 3
FIGURE 2-1: WWTF SITE PLAN 7
FIGURE 2-2: PROCESS FLOW SCHEMATIC DIAGRAM 8
FIGURE 4-1: HRFMHC DISTRIBUTION SYSTEM 28
FIGURE 4-2: AGRICULTURAL POND DISTRIBUTION SYSTEM 29

List of Appendicies

Appendix A – Regulations Related to Recycled Water
Appendix B – Guidelines for the Preparation of an Engineering Report
Appendix C – Recycled Water Training Program
Appendix D – WWTF Design Plans

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List of Abbreviations

BOD	Biological Oxygen Demand
CCR	California Code of Regulations
CDPH	California Department of Public Health
CIP	Clean in place
DO	Dissolved Oxygen
EQ	Equalization
gpd	Gallons per day
gpm	Gallons per minute
HRFMHC	Hard Rock Fire Mountain Hotel and Casino
LBS	Pounds
MBR	Membrane Bioreactor
mg/L	Milligrams per liter
mJ	millijoule
MGD	Million gallons per day
MPN	Most probable number
NTU	Nephelometric Turbidity Units
O&M	Operations and Maintenance
PSIG	Pounds per Square Inch (gauge)
RAS	Return Activated Sludge
SWD	Side Water Depth
SWRCB	State Water Resources Control Board
TDH	Total dynamic head
TKN	Total Kjeldahl Nitrogen
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency
UV	Ultraviolet
WAS	Waste Activated Sludge
WRR	Water Reclamation Requirements
WWTF	Wastewater Treatment Facility

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1 Project Objective

This Report describes the production, distribution and use of recycled water proposed at the Hard Rock Fire Mountain Hotel and Casino, according to the requirements of Title 22 of the California Code of Regulation.

1.1 Introduction

The proposed Hard Rock Fire Mountain Hotel and Casino (HRFMHC) development project is considered commercial and is located in the Wheatland area of unincorporated Yuba County, on Native American Trust Lands. The proposed development is to be served by a Wastewater Treatment Facility (WWTF). The WWTF is comprised of collection, treatment, and reuse components. This Engineering Report has been prepared to provide an overview of the proposed WWTF with respect to the relevant requirements of Title 22 of the California Code of Regulations (22 CCR) and of Title 17 of the California Code of Regulations (17 CCR). Based upon the size of the proposed development and wastewater generation calculations, it is anticipated that the average annual estimated total wastewater flows generated by the project will be approximately 141,000 gallons per day (gpd), and the total estimated peak week wastewater flows will be approximately 175,000 gpd.

Recycled water that is not reused on-site will be conveyed to an off-site Agricultural Pond, where the recycled water will be used for irrigation for adjacent agricultural land. Recycled water conveyed to the Agricultural Pond shall be in compliance with the State Water Resources Control Board (SWRCB) water reclamation requirements for recycled water use (Reference 12), and all other applicable state and federal water quality laws.

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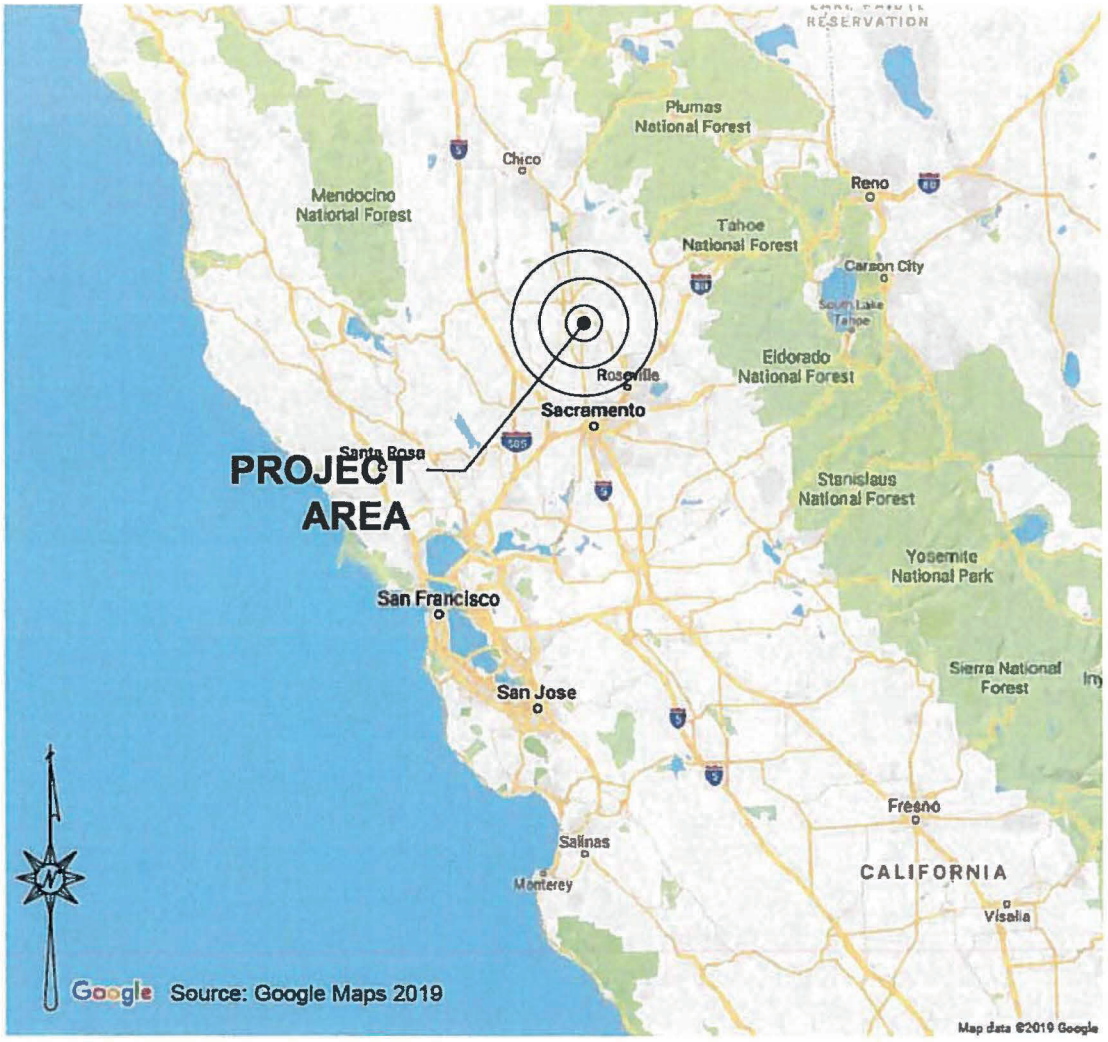


Figure 1-1: Location Map

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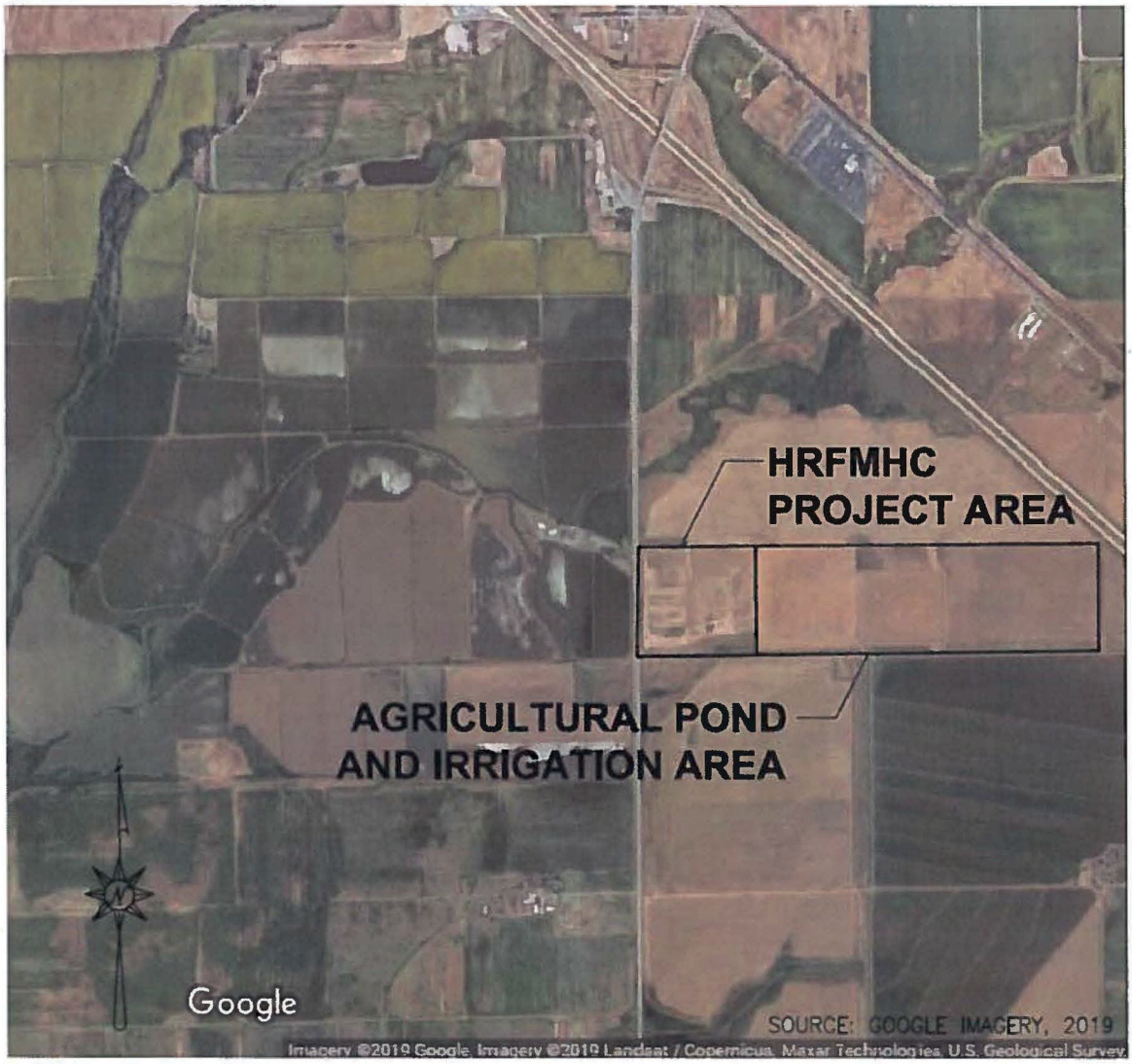


Figure 1-2: Project Area Map

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1.2 California Code of Regulations and Water Recycling Criteria

The California Department of Public Health (CDPH) oversees the use of recycled water under 22 CCR and 17 CCR, which ensure consistent, reliable water quality while protecting public health (Appendix A). 22 CCR establishes the requirements for recycled water treatment, quality, and allowable use. The California Water Recycling Criteria in 22 CCR §§ 60301 through 60355, inclusive, prescribe the following:

- Recycled water quality and wastewater treatment requirements for the various types of uses
- Reliability features required in the treatment facilities to ensure safe performance
- Use area requirements pertaining to the actual recycled water use location

17 CCR establishes the requirements for backflow protection of the potable water supply. Preparation of this Engineering Report is required by 22 CCR. This Engineering Report must be amended prior to any project modification and must describe the manner by which the project will comply with the Water Recycling Criteria. 22 CCR § 60323 specifies that the Engineering Report shall be prepared by a properly qualified engineer, registered in California, and experienced in the field of wastewater treatment. This Engineering Report follows guidelines published by the CDPH titled "Guidelines for Preparation of an Engineering Report for the Production, Distribution, and Use of Recycled Water", released March 2001, (Appendix B).

1.3 Wastewater Treatment Facility Process Summary

It is anticipated that the average annual estimated total wastewater flows generated by the project will be approximately 141,000 gpd, and the total estimated peak week wastewater flows will be approximately 175,000 gpd.

The treatment system is designed to receive raw wastewater from the casino and hotel. After undergoing primary and secondary screening, the effluent will be treated in an activated sludge process plant using a membrane bioreactor (MBR) treatment system manufactured by Ovivo®. An MBR is a suspended growth activated sludge system that utilizes microporous membranes for solid/liquid separation instead of secondary clarifiers. It provides an effluent quality that is hygienically pure by putting a physical barrier between the solids and liquids. The effluent from the MBR system will then undergo ultraviolet

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disinfection before being stored in a recycled water storage tank for reuse on-site or in an off-site Agricultural Pond.

The WWTF will consist of the following components:

1) Lift Station
2) Influent Flow Meter
3) Fine Drum Screen
4) Secondary Fine Screens
5) Pre-Anoxic Basin
6) EQ Transfer Pumps
7) EQ Tank
8) Pre-Aeration Basin
9) Feed Forward Pumps
10) MBR Basins
11) Membrane Clean in Place (CIP) Units
12) Membrane Air Scour Blowers
13) Permeate Pumps
14) Effluent Flow Meters
15) Ultraviolet (UV) Disinfection System
16) Effluent Storage Tank
17) Effluent Pump System
18) WAS Pumps
19) Aerobic Digester
20) Sludge Screw Press
21) Controls
22) Generator

1.4 Report Organization

This Engineering Report is organized into the following six sections:

1. Project Objective / Introduction
2. Recycled Water System
3. Wastewater Treatment Facility Monitoring Program
4. Transmission and Distribution Systems
5. Contingency Plan
6. References

This report also includes the following appendices:

Appendix A: Regulations Related to Recycled Water

Appendix B: Guidelines for the Preparation of an Engineering Report

Appendix C: Recycled Water Training Program

Appendix D: WWTF Design Plans

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2 Recycled Water System

The proposed WWTF provides tertiary treatment enhanced for denitrification. The project site is located at 3317 Forty Mile Road in Wheatland, California 95962, on Native American Trust Lands. The WWTF is located on the northeast corner of the project site and has an area of approximately 300 feet by 120 feet. Disinfected tertiary effluent will be stored in the Effluent Storage Tank prior to reuse for unrestricted access toilet flushing and landscape irrigation. Excess effluent overflows from the Effluent Storage Tank will be directed to an off-site Agricultural Pond, which supplements the required irrigation water from the adjacent agricultural operations. Refer to Figures 2-1 and 2-2 for the WWTF Site Plan and Process Flow Schematic Design, respectively.

2.1 General

The treatment system is designed to receive raw wastewater from the casino and hotel and will consist of an activated sludge process plant using a membrane bioreactor (MBR) treatment system manufactured by Ovivo®. An MBR is a suspended growth activated sludge system that utilizes microporous membranes for solid/liquid separation instead of secondary clarifiers. It provides an effluent quality that is hygienically pure by putting a physical barrier between the solids and liquids.

2.2 Rules and Regulations

The California regulatory requirements that apply to recycled water supply and facility installation include 22 CCR and 17 CCR. The applicable rules, regulations, and guidelines provided in this report are as follows:

1. Excerpts of 22 CCR and 17 CCR (Appendix A)
2. Guidelines for the Preparation of an Engineering Report for the Production, Distribution, and Use of Recycled Water (CDPH, 2001) (Appendix B)

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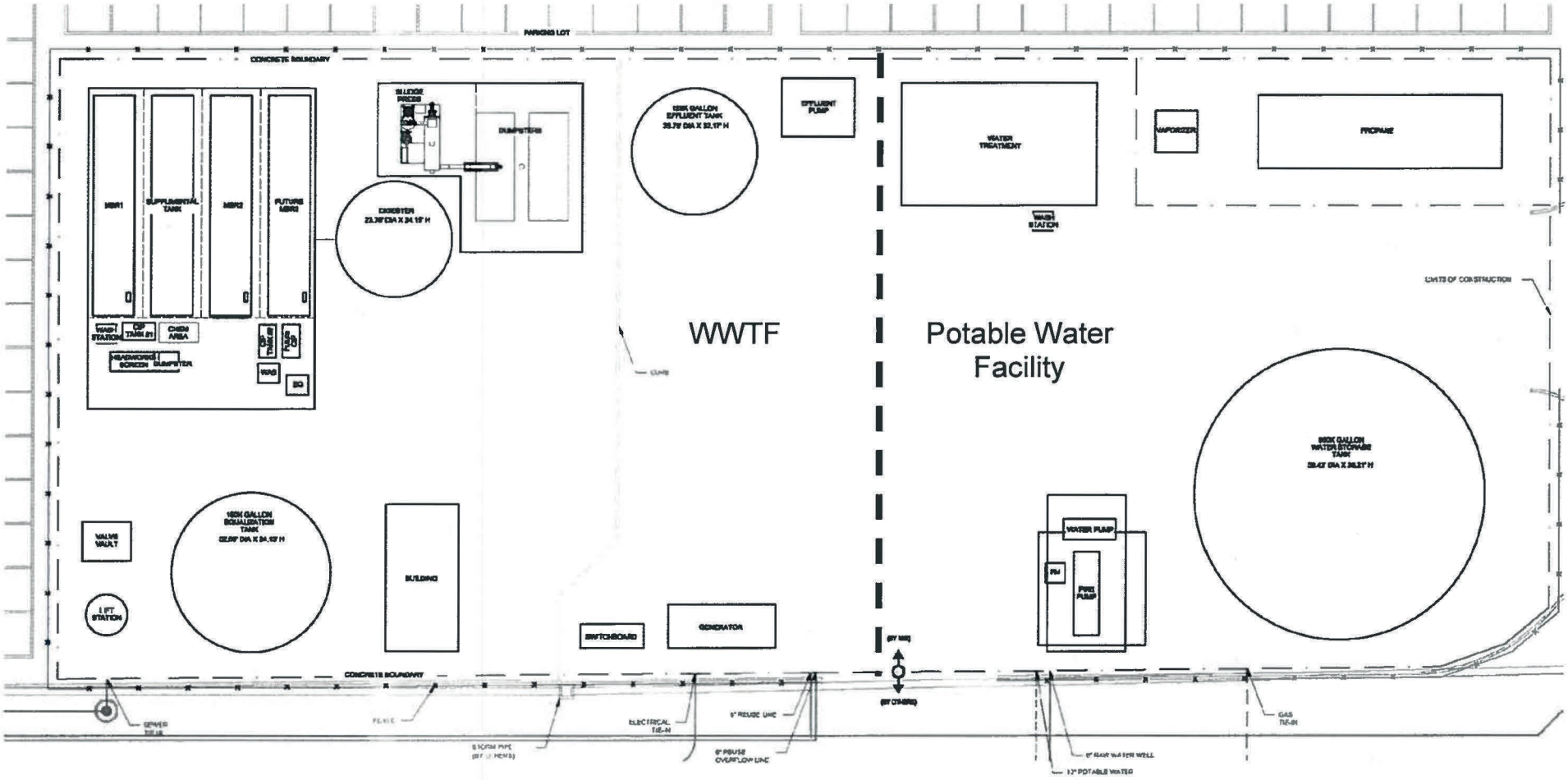


Figure 2-1: WWTF Site Plan

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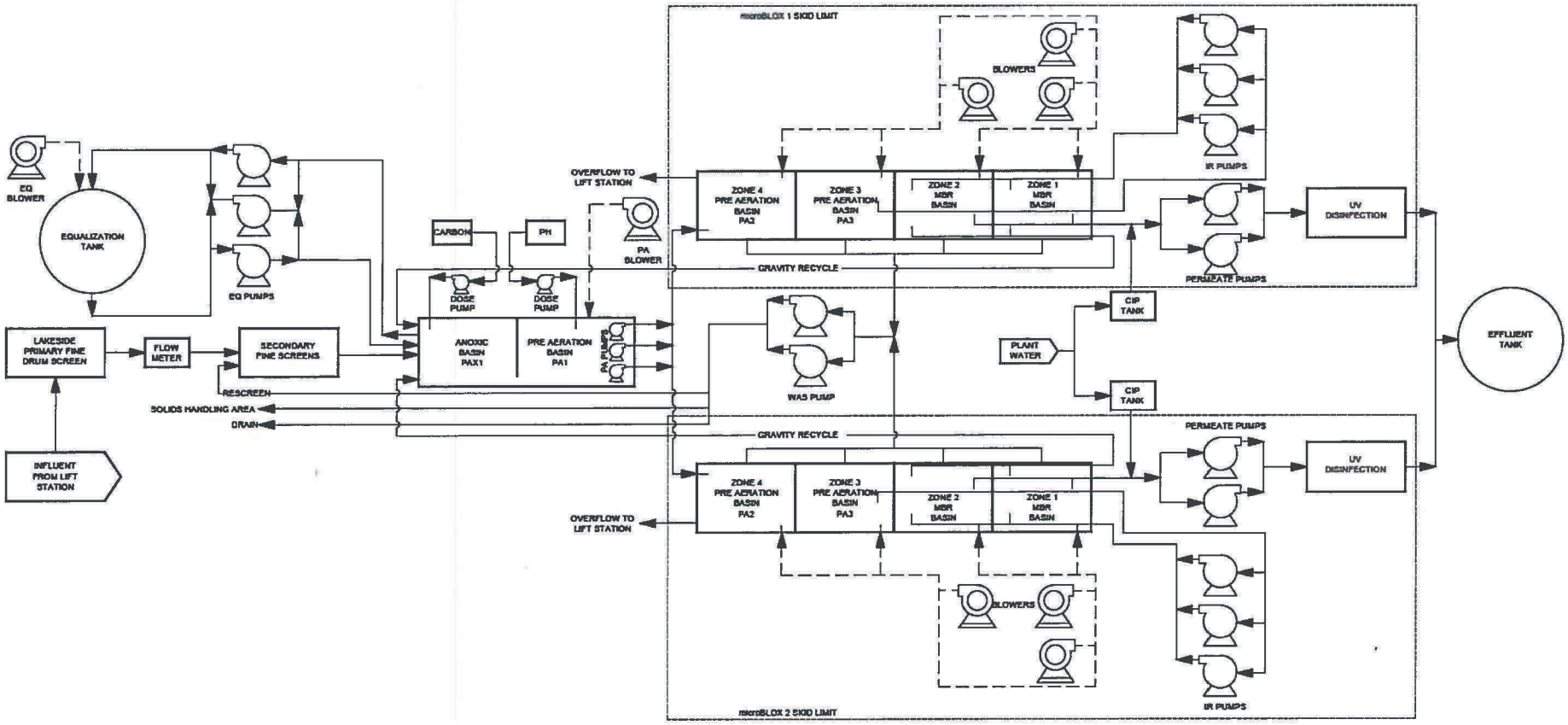


Figure 2-2: Process Flow Schematic Diagram

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2.3 Producer - Distributor - Users

The HRFMHC produces recycled water and distributes the recycled water for landscape irrigation, dual use plumbed areas in the casino, and impoundment for agricultural use. HRFMHC is responsible for ensuring that any end use will comply with all Title 22 requirements in the application of reclaimed water.

The off-site agricultural pond and agricultural land is owned by the Yuba County Motorplex LLC and Yuba County Entertainment LLC with the land being leased to Latigo Farms LLC. The operations manager for the Yuba County Motorplex and Yuba County Entertainment LLCs is Joe Kirklin. AQuality will act as the trainer to farm operators and personnel on the use of recycled water and will be employed by the Producer of the recycled water and operator of the WWTP. AQuality will provide training to Latigo Farms LLC personnel on items such as argonomic application of recycled water and will ensure the posting of signs, etc. are correct.

2.4 Raw Wastewater Source

Wastewater is generated from the proposed HRFMHC development consisting of short term hotel living quarters, meeting rooms, dining facilities, supporting office and maintenance buildings, and a casino.

2.4.1 Raw Wastewater Quantity

The WWTF is designed to accommodate full occupancy based upon proposed use. Wastewater flows are estimated for each proposed use based on typical flow generation factors employed by the California Building and Plumbing Codes as well as industry standards, which do not account for the anticipated use of modern conservation plumbing fixtures throughout the development. Expected flows are summarized in Table 2-1 below.

Table 2-1: Anticipated Flow

Parameter	Unit	Flow	Event Duration
Minimum Day Flow	gpd	100,000	24 hours anytime
Average Annual Flow	gpd	141,000	9 consecutive months
Maximum Month Flow	gpd	141,000	3 consecutive months
Peak Week Flow	gpd	175,000	3 consecutive days
Peak Hour (4Q) Flow	gpm	392	2-hours

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2.4.2 *Raw Wastewater Quality*

The characteristics of wastewaters generated from proposed uses are anticipated to be similar to that of commercial strength wastewaters. Values of anticipated water quality associated with proposed uses are presented in Table 2-2 below.

Table 2-2: Anticipated Composition of Wastewaters Generated Onsite

Contaminant	Unit	Untreated Wastewater	Proposed Effluent
Biochemical oxygen demand, BOD	mg/L	350	<10
Chemical oxygen demand, COD	mg/L	706	<10
Suspended solids, total (TSS)	mg/L	350	<10
Total Kjeldahl Nitrogen (TKN)	mg/L	75	
Total Nitrogen (total as N)	mg/L	75	
Phosphorous (total as P)	mg/L	8	
Fecal Coliform	MPN/100 mL	10^6 to 10^9	<2.2
Alkalinity	mg/L	300	

The proposed WWTF will include primary and secondary screening, followed by biological treatment, membrane bioreactor ultrafiltration, and ultraviolet disinfection.

Industrial wastewaters will not be allowed to enter the WWTF collection system and will be handled in accordance with local and state requirements if it occurs as a result of facilities maintenance or activities. The pH of wastewater entering the WWTF will be monitored and will provide an indicator of illicit industrial discharge (refer to Sections 3.0 and 5.5).

2.4.3 *Projected WWTF Effluent Quality*

The target effluent water quality parameters presented in Table 2-2 are designed to exceed minimum standards for disinfected tertiary recycled water in accordance with 22 CCR reuse requirements (See Reference 5). The filtration and disinfection technologies employed in the WWTF are certified by the California Department of Public Health (CDPH) for use in the production of recycled water (See Reference 3). Disinfected tertiary recycled water is permissible for a broad range of unrestricted access irrigation, non-restricted recreational impoundment, commercial cooling, toilet flushing and other uses, with the general exception of groundwater recharge and [indirect] potable reuse, for which more restrictive requirements are in effect.

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2.4.4 *Design Intent*

The Design Intent is to treat all wastewater generated from the proposed development to levels in accordance with the definition of disinfected tertiary recycled water contained in the 22 CCR reuse requirements (See Reference 5, Appendix A) as well as all requirements of the SWRCB WRR Order No. WQ 2016-0068-DDW (Reference 12).

The following is a summary of the Design Intent:

1. The pH of wastes discharged shall at all times be between 6.5 and 8.5 pH units.
2. Recycled water discharged to the Agricultural Pond shall not contain constituents in excess of the limits identified in Table 2-2.
3. Treated wastewater discharged to the Agricultural Pond shall not contain salts, heavy metals or organic pollutants at levels that would impact groundwater that may be in hydraulic connection with surface waters with designated uses for marine aquatic life or body contact recreation.
4. Any recycled water that does not meet the foregoing requirements shall be diverted to the EQ tank for re-treatment.

The Design Intent is to produce recycled water and reuse in such a manner that meets the foregoing requirements and avoids runoff of recycled water. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas or food handling facilities. All drinking water fountains will be protected against contact with recycled water spray, mist, or runoff.

Absent further geologic investigation and characterization of well construction and use, no irrigation with disinfected tertiary recycled water shall take place within 50 feet of any domestic water supply well. All treated recycled water stored in the Agricultural Pond shall be used to irrigate the adjacent agricultural land.

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2.4.5 *Projected Reclaimed Water Quality*

The plan for the proposed WWTF is to construct a facility with an average treatment capacity of 141,000 gpd and a peak treatment capacity of 175,000 gpd to serve HRFMHC use areas with reclaimed water suitable for landscape irrigation and flush fixtures. The two key criteria for reclaimed water quality set forth in 22 CCR are turbidity and total coliform. Shown below in Table 2-3, the membrane ultrafiltration and ultraviolet disinfection system are predicted to meet 22 CCR requirements.

Table 2-3: Anticipated Reclaimed Water Quality

Contaminant	Unit	7-day Median	30-day Average	Daily Average	Daily Maximum
Biochemical oxygen demand, BOD_5	mg/L	1	<10	--	
Suspended solids, total (TSS)	mg/L	1	<10	--	1
Turbidity	NTU	--	--	≤0.2[1]	≤0.5[2]
Coliform Organisms	MPN/100 mL	<2.2[9]	<2.2	--	23

1. 95% of 24-hour reporting period
2. Any time

The above prediction for the membrane filtration system is based on the CDPH's 2009 report, Treatment Technology Report for Recycled Water (Reference 3), and CDPH's conditional acceptance letter dated May 5, 2011 (Reference 13) for the UP-150 ultrafiltration membrane produced by Microdyn-Nadir, used in all Ovivo's membrane units. The prediction for the disinfection equipment is based on an Alternative Treatment Technology Report for Recycled Water, produced by SWRCB in September 2014 (Reference 2). It is anticipated that the WWTF will achieve the mandated water quality requirements for reclaimed water. The system will be fully tested for compliance with all applicable laws and as required by 22 CCR and 17 CCR.

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Table 2-4: WWTF Loading Rates

Loads and Flows	Unit	Value
Average Annual Flow	GPD	141,000
Max Day Flow	GPD	175,000
Peak Hour	GPM	392
Average BOD Loading	lbs/day	412
Max Day BOD Loading	lbs/day	511
Average TSS Loading	lbs/day	412
Max Day TSS Loading	lbs/day	511
Average TKN Loading	lbs/day	88
Max Day TKN	lbs/day	110
Average Phosphorous Loading	lbs/day	9
Max Day Phosphorous Loading	lbs/day	12

2.5 Wastewater Treatment Facility Description

Primary influent is generated at the HRFMHC and enters the WWTF from the Influent Lift Station. Influent is pumped from the lift station through the Lakeside Primary Fine Drum Screen and the Secondary Fine Screens into the Anoxic Basin (PAX1). Refer to the Process Flow Schematic Diagram, Figure 2-2 for a visual schematic of the proposed treatment system. At PAX1, the screened influent is dosed with a carbon feed system and mixed mechanically. To maintain an operator controlled liquid level in PAX1, effluent is pumped as necessary from PAX1 into the 150,000-gal Equalization Tank. The Equalization Tank will provide additional surge volume to buffer the proposed peak day design flows generated by the entire property and ensure a constant flow is delivered to the membrane bioreactor treatment system. When the operator controlled liquid level in PAX1 drops below a specified control point, equalization pumps transfer screened carbon-dosed influent from the equalization tank back into PAX1, where it flows from PAX1 into the Pre-Aeration Basin (PA1). Alkalinity dosing occurs in PA1, ensuring adequate nitrification occurs in the biological process. Effluent flows from PA1 into the four (4) zone membrane bioreactor (MBR) treatment system on the two (2) microBLOX skids. Effluent from PA1 enters Pre-Aeration Basins in Zones 4 & 3, before being pumped to the MBR Basins in Zones 2 & 1. Three (3) blowers aerate Zones 1 through 4. Solids settling to the bottom of Zones 2 & 1 are transferred by gravity as Return Activated Sludge (RAS) back

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to PAX1, to maintain biologic activity in PAX1. Solids settling from Zones 1 through 4 are also transferred periodically as Waste Activated Sludge (WAS) to a Solids Handling area (anaerobic digestion) to prevent the buildup of solids in the biological process. The MBR units contain submerged ultrafiltration membranes. A small fraction of the recycled water will pass through the ultrafiltration membranes as permeate with the majority being rejected as RAS to the Anoxic Tanks. This extended aeration/RAS process configuration reliably enhances reduction of Total Nitrogen (TN) in the recycled water to below the groundwater limit of 10 mg/L TN.

The permeate pumped from Zones 2 & 1 will pass through two (2) ultraviolet (UV) disinfection arrays plumbed in parallel, each containing three (3) UV disinfection units, before being collected in the proposed 125,000-gallon Effluent Storage Tank. The Effluent Storage Tank holds recycled water to be conveyed back to the casino for use in toilets as well as for landscape irrigation. The Effluent Storage Tank also has an overflow pipe which discharges to the 30-million-gallon Agricultural Pond. The WWTF has been designed and operated in accordance with California water reuse requirements allowing for spray irrigation of disinfected tertiary effluent on publicly accessible areas, including landscaping and agricultural areas.

2.5.1 Influent from Lift Station

The lift station has a working capacity of 4,700 gallons and houses three (3) 7.5 hp EBARA model 100DLMFU65.5 explosion-proof pumps each capable of pumping 266 gallons per minute (gpm) at 39 feet of total dynamic head (TDH). A peak hourly flow rate of 392 GPM was calculated:

$$141{,}000 \text{ GPD} \times 4 / 1440 \text{ min} = 392 \text{ GPM}$$

Pumps were sized to handle peak flows with one pump out of service. Wastewater from the hotel and casino is conveyed to the fine drum screen via these pumps.

There is a high-level float switch and a level transducer controlling pump operation. The functions are set at the following elevations and set points in the controller.

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Table 2-5: Float Switch Elevations and Functions

Function	Control	Distance from Bottom
1	High Level Alarm & 2nd Lag On	15 feet
2	Lag On	8 feet
3	Lead On	6 feet
4	Pump Stop	3.5 feet
5	Low Level Alarm	2 feet

2.5.2 Lakeside Primary Fine Drum Screen

A tank-mounted rotating drum screen manufactured by Lakeside Equipment Corporation, a Raptor® model 30RDS-0.08-79, was selected for the project. This unit is designed to handle 2-hour peak events. It is designed for an average flow of 400 gpm and has a maximum hydraulic capacity of 937 gpm and 1.349 million GPD. The screen basket openings are to be 0.08" or 2mm. Solids are removed from the screening basket by gravity with the aid of a spray wash system and deposited into the concentric screw conveyor trough. Screenings are transported up the screw conveyor through a compression chamber for discharged. The screenings collection trough is designed to allow wash water to drain. The transport screw is designed to transport and dewater the screened material. The discharge shoot will be furnished with a continuous bagger cassette holder to contain and encase dewatered screenings, or cakes. Wash system is designed to run at 20 gpm with a pressure of 80 psig.

2.5.3 Secondary Fine Screens

The secondary fine screens consist of two automated bar screens, Enviroquip FS-1100. They are designed to remove solids greater than two millimeters in diameter prior to entering the anoxic chamber of the MBR. Solids removed from the wastewater are collected into a removable container for disposal. Each screen is able to handle a maximum flow rate of 500 gpm and are plumbed in parallel for a combined capacity of 1,000 gpm. These fine screens serve as a back-up in the event the Raptor Drum Screen is out of service.

2.5.4 Carbon Dosed Anoxic Basin

Following the secondary fine screens effluent flows into the supplemental tank. The first compartment of the supplemental tank is an 11,796-gallon pre-anoxic basin

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denoted PAX1. The anoxic basin serves as a mixing chamber as it receives screened effluent and carbon via chemical feed pumps (see Figure 2-2). Therefore, a mechanical mixer and level transmitter will be located in this chamber.

During lower flows, the side-water depth (SWD) of the supplemental tank will be maintained at approximately 8.5'. During peak events SWD will vary between 9.5' and 10.0'. When the liquid level reaches 10.0' an Equalization (EQ) transfer pump is activated to convey liquid to the EQ tank. After a given time period (operator adjustable set-point) where the SWD remains steady at 9.5', another EQ transfer pump returns effluent from the EQ tank to PAX1. If at any time during the transfer from the EQ tank, the level in the supplemental tank rises to 10.0' the transfer pump to the EQ reinitiates. As the flows increase, the permeate pumps will increase in flow rate to their operator defined maximum flow rate (this maximum rate is set to ensure optimum disinfection in the Ultraviolet Units before recycled water is discharged to the Effluent Storage Tank).

2.5.5 *Alkalinity Dosed Pre-Aeration Basin*

Effluent from PAX1 is conveyed via gravity to the second chamber of the supplemental tank, a 14,745-gallon pre-aeration basin, denoted PA1. Sodium hydroxide (NaOH) is metered into this compartment via the chemical feed system. A swing mixing blower supplies oxygen and a dissolved oxygen (DO) meter measures and controls the aeration process. Forward feed pumps convey effluent from this chamber into either of the two (2) MBR units, entering zone 4 which is another pre-aeration basin, denoted PA2.

2.5.6 *Equalization Tank*

The equalization (EQ) tank has a nominal capacity of 150,000 gallons and a usable capacity of 131,000 gallons above the outlet and below the maximum storage capacity. It is a bolted steel tank manufactured by Superior Tank Company, Inc. It was sized to hold a volume approximately equal to the daily flow in the event of a plant shutdown for repairs.

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Diffusers in this tank run off of a positive displacement blower via a hot-dipped galvanized 6" header pipe with fourteen (14) 1" diameter stainless steel pipes feeding 1" diameter air diffusers.

2.5.7 Ovivo microBLOX Membrane Bioreactor Skid

The package plant includes two (2) Ovivo Four-Zone microBLOX units that each include two aerobic MBR Basins (Zones 1 and 2) each containing ceramic membrane units. The ceramic membranes utilize flat plate technology and provide a physical barrier from the solids and mixed liquor within the tank.

Simultaneous nitrification and de-nitrification occur within the MBR zone and the mixed liquor is filtered by the submerged membrane equipment. Air is supplied to this basin from the main blower header to provide air to the plant when the oxygen demand is low. Periodically, mixed liquor is wasted as waste activated sludge (WAS) to the Aerobic Digester prior to conveyance to the sludge press. Return Activated Sludge (RAS) from this basin is conveyed to the PAX1.

Total capacity of each MBR basin is 7,980 gallons (combined capacity of Zones 1 and 2). Total MBR capacity for the system is 15,960 gallons. The two (2) zones operate as a common basin with equal side water depth. The other zones (Zones 3 and 4) are pre-aerobic basins with a combined capacity of 7,980 gallons (combined system capacity of both units is 15,960 gallons). Three (3) transfer pumps serve each microBLOX unit to convey effluent from PA3 to the MBR basins (Zones 1 and 2). Each transfer pump is a Börger model PL200 rotary lobe pumps.

Clean water (permeate) is pulled through the membrane surface with a vacuum created by the two (2) permeate pumps (each a Börger model PL200). There are three (3) MBR air scour regenerative-style blowers, located on the microBlox unit, two (2) for use and one (1) as a standby, which pump air into the pre-aeration basins (PA1 and PA2) and MBR basins. They introduce scour air to the bottom of the membrane units producing turbulence which "scours" the membrane surface. They are regenerative blowers model SCL K06-TD manufactured by FPZ. Additionally,

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a fourth blower on the Equalization Tank Skid pumps air into the Aerobic Digester (one (1) diffuser) and Equalization Tank (three (3) diffusers).

The permeate is pumped through the ultraviolet (UV) disinfection system and then conveyed to the effluent storage tank. The UV disinfection system is manufactured by NeoTech. The WWTF will have two (2) UV assemblies plumbed in parallel configuration, each assembly with three (3) D438 units. Each D438 unit is anticipated to receive influent with UV transmittance (UVT) of 90% or greater, delivering a UV dose of 80 mJ/cm2 at flows up to 117 gpm per unit. These specifications are compatible with the design intent of a 5-Log inactivation (minimum) of total coliform to achieve effluent requirements. Redundancy is provided with two (2) units in operation and one (1) unit on standby to make provisions for repair or maintenance without down time.

The transmembrane pressure (TMP) under normal operating conditions is typically around 1.5 psi. Pressure creeps up over time and between cleanings. Once the pressure reaches the 3.0 range, the membranes shall be cleaned.

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Table 2-6: Bioreactor Design Criteria

Description	Criteria
Mixed Liquor Suspended Solids	11,000 mg/L
Solids Retention Time at Average Flow	14 days
Hydraulic Retention Time at Average Flow	10 hours
Aeration Type	Fine Bubble
Mixing Type	Submersible
Number of Pre-anoxic Basins	1
Volume, Total	11,796 gallons
Number of Pre-aeration Basins	1
Volume, Total	14,745 gallons
Number of Trains	2
Number of Aeration Basins per Train	2
Volume, Total	15,960 gallons
Number of MBR Basins per Train	2
Volume, Total	15,960 gallons

Table 2-7: Membrane Design Criteria

Description	Criteria
Mixed Liquor Suspended Solids	12.800 mg/L
Aeration Type	Fine Bubble
Membrane Type	BIO-CEL® UP-150
Manufacturers	Ovivo
Model	OV480
Number of Trains	2
Cassettes Per Train	2
Modules per Cassette	150
Design Flux at Average Day Flow	9.1 gpd/sf
Design Flux at Max Day Flow	11.3 gpd/sf

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Table 2-8: UV Disinfection System Design Criteria

Description	Criteria
Type	Closed Conduit
Lamp Type	Low Pressure, High Output
Number of Trains	2
Number of Reactors Per Train (Duty/ Standby)	2/1
Lamps Per Reactor	2
Capacity of Each Reactor (gpm) (90% UVT @ 80mJ/cm^2)	117

2.5.8 Plant Water and Clean in Place (CIP) Tank

Periodic Maintenance Cleans are performed as required if and when the transmembrane pressure across the membrane increases above the set point, generally 2 to 4 times per year. Membrane cleaning is a manual operation that is performed after one of the MBRs has been placed off-line and the associated tank isolated from the remainder of the system.

2.5.9 Effluent Storage

Each MBR unit has two (2) permeate pumps which convey permeate through a flow meter and disinfection system to the Effluent Storage Tank. These pumps are four (4) Börger Model PL200 rotary lobe pumps. The effluent storage tank is a nominal 125,000-gallon bolted steel tank manufactured by Superior Tank with usable capacity of 114,000 gallons. The Effluent Storage Tank holds recycled water to be conveyed back to the casino for use in toilets, as well as for landscape irrigation. There is an inlet with an air gap from the on-site potable water system for make-up water to the irrigation system. There is an overflow pipe which allows recycled water to flow by gravity from the 125,000 gallon Effluent Storage Tank to a 30-million gallon Agricultural Pond, which is used for agricultural irrigation.

2.6 Plant Reliability Features

Wastewater management systems operated in accordance with 22 CCR reuse requirements must satisfy a high level of operational control and reliability. Process reliability features included in the WWTF are described herein, along with a contingency

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plan (described in Section 5.0) which will assure that no untreated or inadequately treated wastewater will be delivered to the use area.

The WWTF's reliability features were selected to produce recycled water effluent quality consistently meeting the 22 CCR requirements. In general, reliability is established by redundancy in treatment equipment, providing necessary back-up systems if a critical process component fails. The recycled water end uses will not be dependent on a continuous supply of recycled water, and will be able to access potable water on-site for backup should recycled water deliveries not be available. This supply redundancy will occur through the use of an air gap at the Recycled Water Storage Tank will be managed at the WWTF site. Allowing for potable water to be placed in the Recycled Water Storage Tank (and from there, into the recycled water distribution system) will provide the necessary supply redundancy.

Reliability features at the WWTF will include:

- Redundant treatment equipment allowing the facility to remain operational while maintenance and repairs are performed; and
- Alarms to indicate problems with the treatment facility process units.

2.6.1 Redundant Treatment Equipment

The WWTF is designed with multiple treatment trains and redundant features to increase the reliability of the system. Table 2-5 summarizes the number of duty and standby units in the treatment process. In addition to redundant equipment, the membranes are designed to typically operate at a lower flux rate than the maximum design flux rate. This allows more flow to be pushed through one of the membrane zones if a membrane zone needs to be taken offline.

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Table 2-9: Treatment Process Train Reliability

Process	Number of Duty Units	Number of Standby Units
Bioreactor Train	3 MBR Zones	1 MBR Zone
UV Disinfection Train	4 units	2 units
WWTF Equalization	2 pumps	1 pump
Effluent Transfer (Pre-Aeration to MBR zones)	4 pumps	2 pumps
Effluent Transfer (MBR zones to UV Disinfection)	2 pumps	2 pumps
Sludge Wasting	1 pump	1 pump
Primary Influent Screening	1 Fine Drum Screen	2 Fine Bar Screens
Recycled Water Distribution Pump Station	1 pump	1 pump

2.6.2 *Alarms*

Key process alarms are summarized below. Some alarms will indicate a problem condition only, while critical alarms are accompanied by automated system responses. All alarms will be integrated into the SCADA system at the on-site operations building and remote access portable computers. The WWTF will be staffed on-site seven days a week. Outside of regular hours, alarms will trigger a phone dial out system or other remote notification system that will notify the on-call operator or manager. The on-call operator will be notified of an alarm condition and will respond accordingly.

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Alarms will be used to indicate critical conditions such as:

- Loss of power;
- Failure of treatment processes/equipment (e.g. pump failure, mixer failure);
- Low and high water levels in the pump station wet wells;
- High pressure in pump discharges; and
- Turbidity and/or UV disinfection not meeting Title 22 requirements.

Critical alarms capabilities and the on-call operator notification system are tested on a weekly basis.

2.6.3 Power Supply

The backup power supply for the WWTF is an on-site standby diesel generator.

2.7 Supplemental Water Supply

The facilities will be served with potable water by existing water wells on-site, permitted and monitored by USEPA (non-transient, non-community). The quantity of water available from these wells is not known. It is high quality potable water and only undergoes cosmetic treatment for taste. The well water is used on-site at eye wash stations and as potable water make up for recycled water supply. Cross connection is prevented by air gaps and backflow preventers. The site is not supplied potable water by a public water agency and has no connection to public potable water supply.

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3 Wastewater Treatment Facility Monitoring Program

The WWTF Administrator has a program in place to monitor the quality of all water discharged from the facility. The SCADA system generates hourly, daily, weekly, monthly, and yearly reports, which is to be included in the reporting. The reclaimed water to be produced by the WWTF as well as the performance of the various plant facilities will be included in the reports. This section presents a discussion of the elements that will be incorporated into the monitoring system.

3.1 Monitoring Stations

To monitor the quality of the reclaimed water to be produced by the WWTF, monitoring stations are established at various strategic locations. A listing of the monitoring stations is presented in Table 3-1.

Table 3-1: Monitoring Stations

Station No.	Location
1	Filtrate Line
2	UV Disinfection System Discharge
3	Reuse Pump Discharge

3.2 Required Monitoring

Article 6 of Title 22 has set forth certain sampling and analysis requirements for monitoring of reclaimed water quality, which for this project apply only to waters discharged into the Agricultural Pond. While the monitoring program presented in this section includes elements that can be reasonably expected to be a part of the required monitoring, it may be necessary to expand this program when the WRR is determined. Any time that untreated water is discharged, contact will be made with the regulatory agencies in accordance with the regulations and section 5.5 of this report.

3.3 Process Control Monitoring

Process control monitoring will collect WWTF performance data and maintenance of records. Such monitoring will enable the WWTF operating staff to assess the performance of the various plant facilities and to make decisions for adjustment to the plant operation to obtain the optimum operating efficiency.

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3.4 Parameters to be Monitored

Title 22 requires the monitoring of settleable solids, turbidity, and coliform bacteria. Since sedimentation will not be used for solids separation at the WWTF, monitoring of settleable solids at the WWTF should not be an applicable requirement. Instead, turbidity, and coliform bacteria will be monitored. Since the reclaimed water will be used for irrigation, monitoring of quality parameters that reflect the suitability of the reclaimed water for irrigation use, such as total dissolved solids (TDS) and alkalinity, will be included in the program. Table 3-2 presents a summary of the parameters to be monitored, frequency, and location of sampling, and the type of samples to be collected.

Table 3-2: Monitoring Program

Monitoring Parameter	Monitoring Location[1]	Sampling or Reading Frequency	Type of Sample or Reading
Flow	3	Continuous	Instantaneous and Totalized
Turbidity	1	Continuous	Grab/Meter
Total Coliform	2	Daily	Grab
Total Dissolved Solids	2	Continuous	Composite
Alkalinity	2	Continuous	Composite

[1] See Table 3-1 for location of monitoring stations

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3.5 Sampling and Analysis

Sampling and analysis will be in accordance with the procedures published in Standard Methods for the Examination of Water and Wastewater. Where composite samples are required, the composite samples will be flow-proportioned for 24 hours or the duration of the plant operating cycle, whichever is shorter. Flow, pH, and turbidity will be automatically and continuously monitored by the instrumentation to be provided at the reclamation plant. The monitoring instruments will be calibrated according to professional industry standards. See Section 5.4 below for more detailed calibration information.

3.6 Records Management

Operating and maintenance records are retained at the WWTF for at least three years. The hard copy records include:

- Monthly reports
- Daily diaries (by year)
- Monthly lubrication/oil record sheets
- Annual reports
- Intermittent and special reports

In addition to the hard copy records, electronic files of this information are kept at the WWTF for at least one year. Hard copies of monthly and annual monitoring reports are retained in the WWTF Operator's records system for a period of at least five years. Monthly and annual reports are filed in compliance with appropriate regulatory agencies. These include, but are not limited to, the Regional Water Quality Control Board, State Water Resources Control Board, and US Environmental Protection Agency.

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4 Recycled Water Transmission and Distribution Systems

4.1 Recycled Water Distribution System

An overview of the HRFMHC distribution system and recycled water pipelines are shown in Figure 4-1. Figure 4-2 shows the Agricultural Pond distribution system. The recycled water pipelines will convey recycled water from the WWTF Recycled Water Storage Tank to the following use areas:

- Dual Plumbed Use Areas in Casino
- Onsite Irrigation
- Offsite Agricultural Pond for agricultural irrigation

4.1.1 General Pipeline Design Criteria for Separation and Identification

The general recycled water pipeline design criteria are summarized below in Table 4-1.

Table 4-1: Pipeline Design Criteria

Criteria	Requirements
Vertical (crossing) separation	• 12 inches below the bottom of potable water main • Crossings of potable and non-potable lines shall be perpendicular • RW lines shall be designed to cross under potable water mains and above sanitary sewers
Horizontal (parallel) separation	• 10 feet separation from, and 1 foot lower than, potable waterlines
Field Identification	• Using purple-colored PVC C900 pipe (purple - Pantone 512) with wording: "RECYCLED WATER: DO NOT DRINK" printed on opposite sides of the pipe at 10-foot intervals; pipe shall be laid with the wording facing upwards. • Warning tape with a minimum width of 75 mm (3 inches) reading: "RECYCLED WATER: DO NOT DRINK" (in black lettering on purple background) shall be run continuously on top of all pipe and shall be attached to pipe with plastic tape banded around the warning tape and the pipe every 1.5 m (5 ft) on center.

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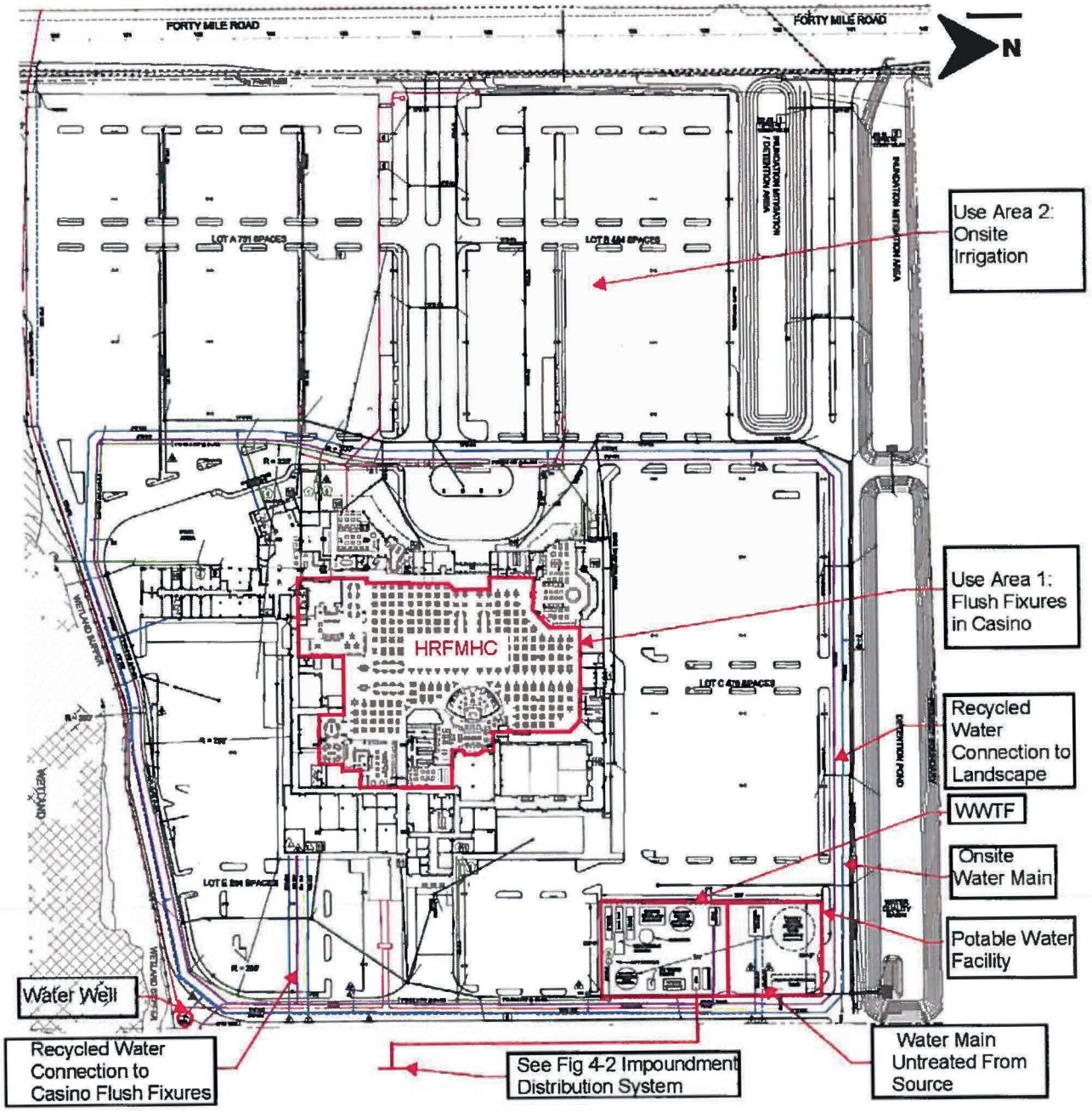


Figure 4-1: HRFMHC Distribution System

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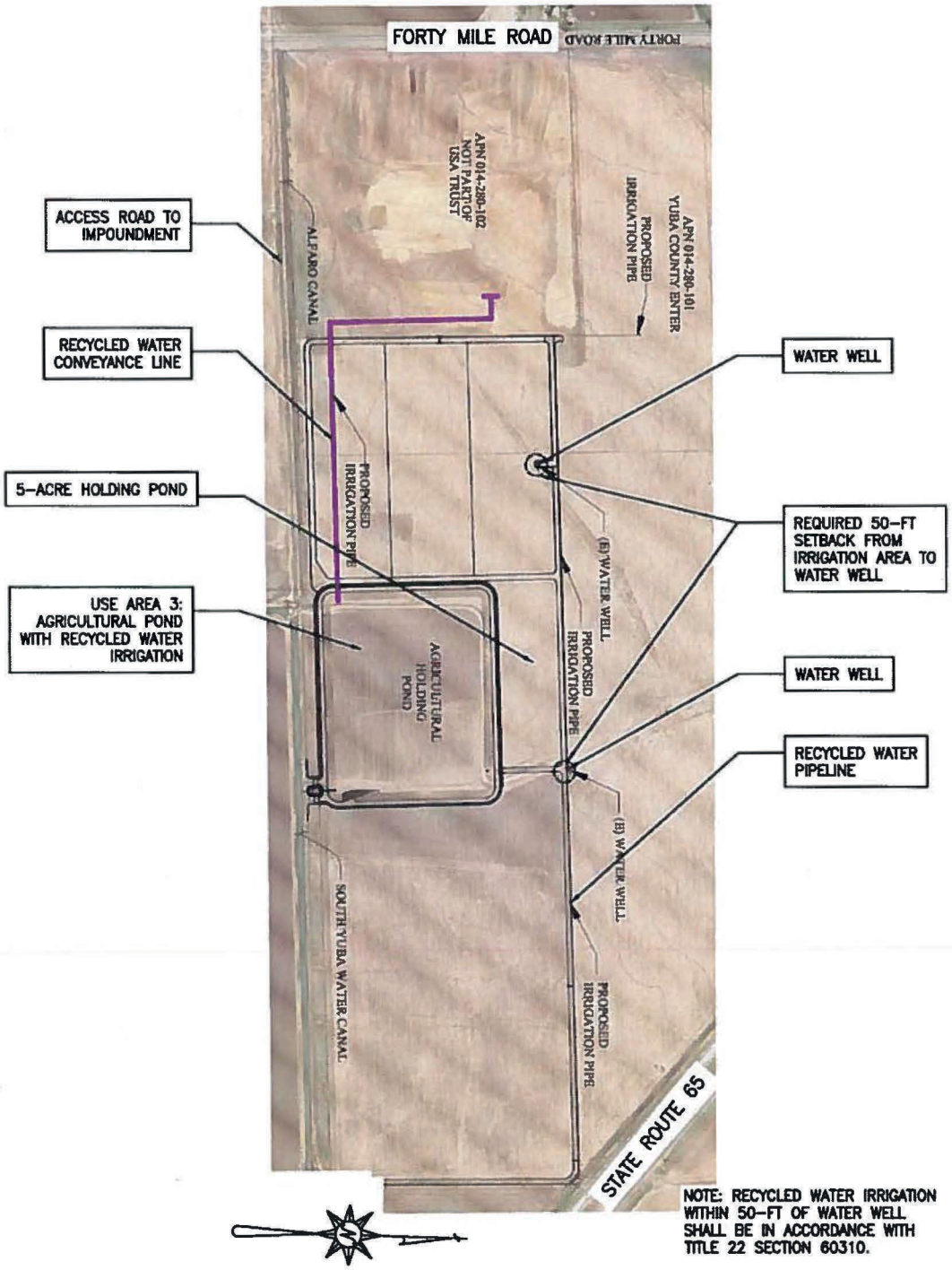


Figure 4-2: Agricultural Pond Distribution System

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4.2 Use Areas

22 CCR §§ 60303 through 60307 outline the various allowable uses for recycled water. Of these allowable uses for recycled water, the types of uses proposed for the HRFMHC use area are:

- Use Area 1: Dual Plumbed Use Areas in Casino
- Use Area 2: Onsite Irrigation
- Use Area 3: Agricultural Pond with Recycled Water Irrigation

4.2.1 Dual Plumbed Use Areas

Recycled water will be conveyed to toilet flush fixtures in the Casino portion of the development only. The remainder of the building water supply shall be served by the potable water distribution system.

4.2.2 Irrigation

On-site Irrigation will be accomplished via a dedicated sprinkler system with appropriate cross connection prevention components to assure it is completely separate from any potable irrigation system. All areas where recycled water is used that are accessible to the public will be posted with signs that are visible to the public with the following wording, "RECYCLED WATER – DO NOT DRINK." The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access.

Off-site irrigation of the agricultural land will be accomplished via flood irrigation using recycled water. Non-food silage corn will be grown on the off-site agricultural land. Alfalfa may be implemented later if found necessary. The 5-acre drain water storage area shown in Figure 4-2 will be excavated a couple of feet below field level to allow for accumulation of irrigation water and sloped to the southeast corner where a pump will send recycled water over the top of the embankment back into the pond. A lift pump located inside the pond embankment will distribute water to the fields and allow the pond to be completely drained at the end of each crop

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season. The existing drains from the crop areas to the north will be removed so that recycled water does not drain outside the closed-loop system. The off-site irrigation area is designed to minimize the ponding of recycled water anywhere but the agricultural pond itself. Setback distances required by Title 22 § 60310 will be maintained by providing a 50-foot setback for recycled water irrigation to any domestic water supply well.

4.2.3 Agricultural Pond

The Agricultural Pond will be used to store recycled water, comingled with irrigation water from groundwater extraction wells. This water will be used for agricultural irrigation only. There is no public access to the Agricultural Pond. The Agricultural Pond is not anticipated to overflow, even during periods of high rainfall. The Agricultural Pond includes an overflow in the southeast corner of the property.

Two (2) groundwater extraction wells are located within the vicinity of the agricultural pond. The first well specified for agricultural use only is located approximately 310-feet north of the agricultural pond with a 16-inch diameter case, 380-feet deep, and a 1,250-gpm capacity. The second well specified for agricultural use only is located 590-feet north-west of the agricultural pond with a 16-inch diameter case, 355-feet deep, and a 1,500-gpm capacity. Both wells contain a 120W Matco swing-check valve backflow preventer.

4.2.4 Use Area Design

Section B "Design & Construction" and Section D "Marking & Equipment" of the Recycled Water User Manual (Appendix C) provide direction to use sites for the design of onsite facilities, including how to properly mark above- and below-grade piping, valves, and sprinkler heads, as well as how to place site signage. The domestic water distribution system shall be protected from the recycled water in accordance with the Regulations Relating to Cross-Connections and the California Waterworks Standards, and the facilities have been designed to minimize the chance of recycled water leaving the designated use area. No deviations from the Water Recycling Criteria are proposed or anticipated.

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4.2.5 *Use Area Inspections and Monitoring*

The Recycled Water Training Program (Appendix C) defines the procedures for conducting the use area inspections and monitoring. Use Site Supervisors are responsible for regulating and monitoring the distribution and use of recycled water at the sites. Latigo Farms, LLC. will conduct the use area inspections and monitoring at the agricultural pond and irrigated agricultural land. The User Manual includes a Site Inspection Report form that allows for documentation of inspections and the conditions found onsite. This form is provided as a baseline and should be modified as required during ongoing operations.

4.2.6 *Employee Training*

Employees working on, or around recycled water will be instructed in accordance with Title 22, rules and regulations governing the use of recycled water and California-Nevada section of the American Water Works Association's Guidelines for Distribution of Nonpotable Water. The WWTF will have a qualified Treatment Plant Supervisor and the use areas will have a qualified Water Distribution Supervisor. Employee training, provided by conducted by the Treatment Plant and Water Distribution Supervisors will be provided to individuals working on or around the agricultural pond and agricultural land irrigated with recycled water. The training sessions will be conducted by the Treatment Plant and Water Distribution Supervisors.

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5 Contingency Plan

The contingency plan is designed to prevent inadequately treated wastewater from being delivered to the reuse areas. Any time inadequate treatment parameters are detected, the pumps are shut down; this prevents further discharge. The monitoring and reporting program, previously discussed, describes events which will trigger reports to be filed.

5.1 Security

Security for the WWTF will be provided through the security facilities of the HRFMHC. The HRFMHC site perimeter is secured with a combination of landscape barriers and fencing. There are two entrances to the HRFMHC.

Access to the WWTF is via the northerly entrance of the HRFMC. The WWTF is secured with fencing and two gates. All gates are manual and locally controlled. The perimeter gates are locked when the plant is not manned. No additional perimeter or interior security devices are required at the WWTF.

Access to the Agricultural Pond is via an access road to the south of the HRFMHC and south of the Alfaro Canal. The access road is secured with a gate, which is manual and locally controlled. The perimeter of the Agricultural Pond is secured with signage and a gate. The gate is manual and locally controlled. The gate is locked when the Agricultural Pond is not manned. No additional perimeter or security devices are required at the Agricultural Pond.

5.2 Supply, Storage, and Delivery of Chemicals

Bulk chemicals for the WWTF will be secured through the Administrator. This will include sodium hypochlorite, citric acid, sodium hydroxide, and Micro C or Methanol for supplemental carbon.

Chemicals are stored in the Operator Building in high density polyethylene tanks designed to resist the stored chemicals. The chemicals pumped from the storage tanks to their respective receiving locations via chemical metering pumps. The chemical solutions are injected to the plant carrier water system and deposited into the MBR tanks for cleaning purposes. Waste chemicals will be metered to the influent lift station for proper disposal.

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5.3 Spare Parts

Spare parts will be managed through the WWTF Administrator and Treatment Plant Supervisor. Critical spare parts will be inventoried on-site in the Operator Building. Routine non-critical parts may be retained on-site or with vendors.

5.4 Predictive Maintenance

All equipment and structures will be incorporated into the WWTF Treatment Plant Supervisor's comprehensive maintenance management program. Maintenance will be scheduled upon the combined basis of manufacturer's recommendations and the Treatment Plant Supervisor's site-specific experience. Professional and industry standards will be observed with regard to monitoring equipment condition, performance, and calibration.

Membrane filtrate turbidity will be measured and recorded continuously. An alarm will enunciate if the turbidity exceeds 0.2 NTU. The reuse pumps will automatically shut off if turbidity is greater than 0.5 NTU.

The WWTF Operator has obtained operation and maintenance manuals for each piece of proposed equipment. The Operator will digitize all paper manuals and incorporate them into a WWTF-wide operation and maintenance manual.

Critical Instrument calibration related to conformance with Title 22 are as follows:

- Flow Meters: Siemens MAGFLO meters come bench calibrated and have no recalibration frequency.
- Turbidimeters: Hach turbidimeters must be cleaned daily and calibrated monthly using StablCal® Stabilized Formazin. The full procedure is specified by the manufacturer.

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5.5 Emergency Response and Notification Procedures

Emergency response and notification procedures will be initiated under conditions of plant performance failure. These conditions are expected to include the following:

A. Non-compliance with:
   1. Average turbidity limit
   2. Instantaneous turbidity limit
   3. Coliform limit*
   4. Other pollutants of concern

B. Failure of disinfection system resulting in inadequately disinfected water being pumped to the reuse sites.

* If laboratory analyses show that the Coliform limit exceeds 2.2 MPN/100ml for a 7-day median or 23 MPN/100ml daily maximum, then the lab technician will immediately inform the plant manager of the failure to meet the requirements. The plant manager will then immediately shutdown the system until the system meets the limits.

Notification procedures will include the following steps:

A. Operator/laboratory notification of Senior Operator, Plant Superintendent and Plant Engineer.
B. Plant Superintendent notification of regulatory authorities
C. Notification by telephone within 24 hours.
D. Written notification within 5 days to include:
   1. Statement of condition
   2. Cause of condition (if known)
   3. Corrective action taken
   4. Further corrective action planned
   5. Follow-up schedule

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6 References

1. State of California, State Water Resources Control Board, Division of Drinking Water, Regulations Related to Recycled Water, October 2018.

2. State of California, State Water Resources Control Board, Division of Drinking Water, Alternate Treatment Technology Report for Recycled Water, September 2014.

3. State of California Department of Public Health, Division of Drinking Water and Environmental Management, Technical Operations Section, Recycled Water Unit, Treatment Technology Report for Recycled Water, December 2009.

4. State of California Department of Health Services, Division of Drinking Water and Environmental Management, Drinking Water Program, Recycled Water Unit, Guidelines for the Preparation of an Engineering Report for the Production, Distribution and Use of Recycled Water, 2001.

5. State of California Department of Health Services, Sanitary Engineering Section, California Administrative Code, Title 22, Division 4, Environmental Health, Wastewater Reclamation Criteria, 1978.

6. California-Nevada Section, American Water Works Association, Guidelines for Distribution of Nonpotable Water, 1992.

7. National Water Research Institute and American Water Works Association Research Foundation, Ultraviolet Disinfection Guidelines for Drinking Water And Water Reuse, Second Edition, May 2003.

8. American Public Health Association, et al., Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998.

9. EPA Onsite Wastewater Treatment Systems Manual (EPA/625/R-00/008).

10. Crites, R., Tchobanoglous, T., Small and Decentralized Wastewater Management Systems, WCB/McGraw-Hil, 1998.

11. Metcalf & Eddy, Wastewater Engineering Treatment and Reuse, Fourth Edition, 2003.

12. State of California, State Water Resources Control Board, Water Reclamation Requirements for Recycled Water Use (Order WQ 2016-0068-DDW), June 2016.

13. State of California Department of Public Health, Division of Drinking Water and Environmental Management, Technical Operations Section, Recycled Water Unit, Conditional Acceptance of the BIO-CEL® UP-150 membrane to comply with California Water Recycling Criteria (3690001-728)

APPENDIX F

CALEEMOD OUTPUT FILES

Enterprise Casino Expansion

Yuba County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	20.00	1000sqft	0.46	20,000.00	0
Arena	75.00	1000sqft	2.00	75,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	72
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	181.56	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PGE carbon intensity adjusted based on CA RPS.

Land Use - Site Plan

Construction Phase - Project Schedule

Off-road Equipment - PD

Off-road Equipment - Project Description

Off-road Equipment -

Off-road Equipment - PD

Off-road Equipment - PD

Off-road Equipment - PD

Trips and VMT - Based on total 725 workers.

Grading - PD

Architectural Coating - Emission factors adjusted to account for FRAQMD Rule 3.15

Vehicle Trips - Based on traffic study.

Energy Use -

Construction Off-road Equipment Mitigation - Tier 3 Equip

Table Name	Column Name	Default Value	New Value
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tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
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tblConstEquipMitigation	DPF	No Change	Level 3
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tblGrading	MaterialImported	0.00	4,000.00
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tblTripsAndVMT	WorkerTripNumber	38.00	425.00
tblTripsAndVMT	WorkerTripNumber	30.00	75.00
tblTripsAndVMT	WorkerTripNumber	8.00	75.00
tblVehicleTrips	ST_TR	10.71	7.71
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tblVehicleTrips	SU_TR	10.71	7.71
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tblVehicleTrips	WD_TR	10.71	7.71
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2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.5497	3.8090	4.5372	9.7000e-003	0.4925	0.1626	0.6551	0.1476	0.1531	0.3007	0.0000	855.7505	855.7505	0.1257	0.0000	858.8925
2022	0.6933	1.6034	2.2479	4.6900e-003	0.2167	0.0703	0.2870	0.0577	0.0665	0.1242	0.0000	412.0760	412.0760	0.0594	0.0000	413.5602
Maximum	**0.6933**	**3.8090**	**4.5372**	**9.7000e-003**	**0.4925**	**0.1626**	**0.6551**	**0.1476**	**0.1531**	**0.3007**	**0.0000**	**855.7505**	**855.7505**	**0.1257**	**0.0000**	**858.8925**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3391	3.2148	4.9261	9.7000e-003	0.4567	0.0317	0.4884	0.1291	0.0312	0.1603	0.0000	855.7500	855.7500	0.1257	0.0000	858.8920
2022	0.6005	1.5205	2.4470	4.6900e-003	0.2167	0.0142	0.2309	0.0577	0.0141	0.0718	0.0000	412.0757	412.0757	0.0594	0.0000	413.5599
Maximum	**0.6005**	**3.2148**	**4.9261**	**9.7000e-003**	**0.4567**	**0.0317**	**0.4884**	**0.1291**	**0.0312**	**0.1603**	**0.0000**	**855.7500**	**855.7500**	**0.1257**	**0.0000**	**858.8920**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**24.42**	**12.51**	**-8.67**	**0.00**	**5.04**	**80.28**	**23.64**	**9.01**	**79.41**	**45.39**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2021	7-31-2021	1.6948	1.3534
2	8-1-2021	10-31-2021	1.6038	1.3252
3	11-1-2021	1-31-2022	1.5600	1.3289
4	2-1-2022	4-30-2022	1.2859	1.1681
5	5-1-2022	7-31-2022	0.5350	0.5235
		Highest	1.6948	1.3534

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4812	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-003	1.7000e-003	0.0000	0.0000	1.8100e-003
Energy	9.8500e-003	0.0895	0.0752	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	166.9544	166.9544	0.0130	4.0800e-003	168.4955
Mobile	0.1731	0.5731	1.7003	4.1000e-003	0.3748	4.6000e-003	0.3793	0.1005	4.3100e-003	0.1048	0.0000	372.9495	372.9495	0.0153	0.0000	373.3307
Waste						0.0000	0.0000		0.0000	0.0000	4.1938	0.0000	4.1938	0.2479	0.0000	10.3900
Water						0.0000	0.0000		0.0000	0.0000	11.3775	17.2034	28.5809	1.1713	0.0282	66.2560
Total	**0.6642**	**0.6626**	**1.7764**	**4.6400e-003**	**0.3748**	**0.0114**	**0.3861**	**0.1005**	**0.0111**	**0.1116**	**15.5713**	**557.1090**	**572.6803**	**1.4474**	**0.0322**	**618.4740**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4812	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-003	1.7000e-003	0.0000	0.0000	1.8100e-003
Energy	9.8500e-003	0.0895	0.0752	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	166.9544	166.9544	0.0130	4.0800e-003	168.4955
Mobile	0.1731	0.5731	1.7003	4.1000e-003	0.3748	4.6000e-003	0.3793	0.1005	4.3100e-003	0.1048	0.0000	372.9495	372.9495	0.0153	0.0000	373.3307
Waste						0.0000	0.0000		0.0000	0.0000	4.1938	0.0000	4.1938	0.2479	0.0000	10.3900
Water						0.0000	0.0000		0.0000	0.0000	11.3775	17.2034	28.5809	1.1713	0.0282	66.2560
Total	**0.6642**	**0.6626**	**1.7764**	**4.6400e-003**	**0.3748**	**0.0114**	**0.3861**	**0.1005**	**0.0111**	**0.1116**	**15.5713**	**557.1090**	**572.6803**	**1.4474**	**0.0322**	**618.4740**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2021	5/14/2021	5	10	
2	Grading	Grading	5/15/2021	5/28/2021	5	10	
3	Building Construction	Building Construction	5/29/2021	4/15/2022	5	230	
4	Paving	Paving	4/16/2022	4/29/2022	5	10	
5	Architectural Coating	Architectural Coating	4/30/2022	6/10/2022	5	30	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 142,500; Non-Residential Outdoor: 47,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	2	8.00	187	0.41
Site Preparation	Scrapers	2	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	2	8.00	187	0.41
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	4	7.00	97	0.37
Building Construction	Aerial Lifts	8	5.00	63	0.31
Building Construction	Cranes	3	8.00	231	0.29
Building Construction	Forklifts	4	7.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Architectural Coating	Air Compressors	4	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	75.00	0.00	500.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	75.00	0.00	500.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	24	425.00	16.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	75.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	75.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7800e-003	0.0000	2.7800e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0163	0.1912	0.1174	2.6000e-004		7.5100e-003	7.5100e-003		6.9100e-003	6.9100e-003	0.0000	22.7207	22.7207	7.3500e-003	0.0000	22.9044
Total	**0.0163**	**0.1912**	**0.1174**	**2.6000e-004**	**2.7800e-003**	**7.5100e-003**	**0.0103**	**3.2000e-004**	**6.9100e-003**	**7.2300e-003**	**0.0000**	**22.7207**	**22.7207**	**7.3500e-003**	**0.0000**	**22.9044**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0743	0.0152	2.0000e-004	4.1600e-003	3.1000e-004	4.4700e-003	1.1400e-003	2.9000e-004	1.4400e-003	0.0000	19.1593	19.1593	3.1000e-004	0.0000	19.1672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1400e-003	1.8600e-003	0.0173	4.0000e-005	4.5800e-003	3.0000e-005	4.6100e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.7927	3.7927	1.3000e-004	0.0000	3.7960
Total	**4.0500e-003**	**0.0761**	**0.0325**	**2.4000e-004**	**8.7400e-003**	**3.4000e-004**	**9.0800e-003**	**2.3600e-003**	**3.2000e-004**	**2.6900e-003**	**0.0000**	**22.9520**	**22.9520**	**4.4000e-004**	**0.0000**	**22.9632**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2500e-003	0.0000	1.2500e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0119	0.1612	0.1359	2.6000e-004		4.5800e-003	4.5800e-003		4.2500e-003	4.2500e-003	0.0000	22.7207	22.7207	7.3500e-003	0.0000	22.9044
Total	**0.0119**	**0.1612**	**0.1359**	**2.6000e-004**	**1.2500e-003**	**4.5800e-003**	**5.8300e-003**	**1.4000e-004**	**4.2500e-003**	**4.3900e-003**	**0.0000**	**22.7207**	**22.7207**	**7.3500e-003**	**0.0000**	**22.9044**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0743	0.0152	2.0000e-004	4.1600e-003	3.1000e-004	4.4700e-003	1.1400e-003	2.9000e-004	1.4400e-003	0.0000	19.1593	19.1593	3.1000e-004	0.0000	19.1672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1400e-003	1.8600e-003	0.0173	4.0000e-005	4.5800e-003	3.0000e-005	4.6100e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.7927	3.7927	1.3000e-004	0.0000	3.7960
Total	**4.0500e-003**	**0.0761**	**0.0325**	**2.4000e-004**	**8.7400e-003**	**3.4000e-004**	**9.0800e-003**	**2.3600e-003**	**3.2000e-004**	**2.6900e-003**	**0.0000**	**22.9520**	**22.9520**	**4.4000e-004**	**0.0000**	**22.9632**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0622	0.0000	0.0622	0.0333	0.0000	0.0333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0183	0.2021	0.0976	2.1000e-004		9.1600e-003	9.1600e-003		8.4200e-003	8.4200e-003	0.0000	18.1039	18.1039	5.8600e-003	0.0000	18.2503
Total	**0.0183**	**0.2021**	**0.0976**	**2.1000e-004**	**0.0622**	**9.1600e-003**	**0.0714**	**0.0333**	**8.4200e-003**	**0.0418**	**0.0000**	**18.1039**	**18.1039**	**5.8600e-003**	**0.0000**	**18.2503**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0743	0.0152	2.0000e-004	4.1600e-003	3.1000e-004	4.4700e-003	1.1400e-003	2.9000e-004	1.4400e-003	0.0000	19.1593	19.1593	3.1000e-004	0.0000	19.1672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1400e-003	1.8600e-003	0.0173	4.0000e-005	4.5800e-003	3.0000e-005	4.6100e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.7927	3.7927	1.3000e-004	0.0000	3.7960
Total	**4.0500e-003**	**0.0761**	**0.0325**	**2.4000e-004**	**8.7400e-003**	**3.4000e-004**	**9.0800e-003**	**2.3600e-003**	**3.2000e-004**	**2.6900e-003**	**0.0000**	**22.9520**	**22.9520**	**4.4000e-004**	**0.0000**	**22.9632**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0280	0.0000	0.0280	0.0150	0.0000	0.0150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0400e-003	0.1022	0.1215	2.1000e-004		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	18.1039	18.1039	5.8600e-003	0.0000	18.2502
Total	**5.0400e-003**	**0.1022**	**0.1215**	**2.1000e-004**	**0.0280**	**7.3000e-004**	**0.0287**	**0.0150**	**7.3000e-004**	**0.0157**	**0.0000**	**18.1039**	**18.1039**	**5.8600e-003**	**0.0000**	**18.2502**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0743	0.0152	2.0000e-004	4.1600e-003	3.1000e-004	4.4700e-003	1.1400e-003	2.9000e-004	1.4400e-003	0.0000	19.1593	19.1593	3.1000e-004	0.0000	19.1672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1400e-003	1.8600e-003	0.0173	4.0000e-005	4.5800e-003	3.0000e-005	4.6100e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.7927	3.7927	1.3000e-004	0.0000	3.7960
Total	**4.0500e-003**	**0.0761**	**0.0325**	**2.4000e-004**	**8.7400e-003**	**3.4000e-004**	**9.0800e-003**	**2.3600e-003**	**3.2000e-004**	**2.6900e-003**	**0.0000**	**22.9520**	**22.9520**	**4.4000e-004**	**0.0000**	**22.9632**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3149	2.9624	2.6980	4.7400e-003		0.1421	0.1421		0.1342	0.1342	0.0000	406.2768	406.2768	0.0991	0.0000	408.7538
Total	**0.3149**	**2.9624**	**2.6980**	**4.7400e-003**		**0.1421**	**0.1421**		**0.1342**	**0.1342**	**0.0000**	**406.2768**	**406.2768**	**0.0991**	**0.0000**	**408.7538**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5300e-003	0.1378	0.0394	3.1000e-004	7.2900e-003	4.8000e-004	7.7700e-003	2.1100e-003	4.6000e-004	2.5700e-003	0.0000	29.6220	29.6220	8.6000e-004	0.0000	29.6435
Worker	0.1877	0.1632	1.5200	3.6900e-003	0.4027	2.6500e-003	0.4053	0.1071	2.4400e-003	0.1096	0.0000	333.1232	333.1232	0.0116	0.0000	333.4143
Total	**0.1922**	**0.3011**	**1.5594**	**4.0000e-003**	**0.4100**	**3.1300e-003**	**0.4131**	**0.1093**	**2.9000e-003**	**0.1122**	**0.0000**	**362.7452**	**362.7452**	**0.0125**	**0.0000**	**363.0577**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1219	2.4982	3.0444	4.7400e-003		0.0226	0.0226		0.0226	0.0226	0.0000	406.2763	406.2763	0.0991	0.0000	408.7533
Total	**0.1219**	**2.4982**	**3.0444**	**4.7400e-003**		**0.0226**	**0.0226**		**0.0226**	**0.0226**	**0.0000**	**406.2763**	**406.2763**	**0.0991**	**0.0000**	**408.7533**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5300e-003	0.1378	0.0394	3.1000e-004	7.2900e-003	4.8000e-004	7.7700e-003	2.1100e-003	4.6000e-004	2.5700e-003	0.0000	29.6220	29.6220	8.6000e-004	0.0000	29.6435
Worker	0.1877	0.1632	1.5200	3.6900e-003	0.4027	2.6500e-003	0.4053	0.1071	2.4400e-003	0.1096	0.0000	333.1232	333.1232	0.0116	0.0000	333.4143
Total	**0.1922**	**0.3011**	**1.5594**	**4.0000e-003**	**0.4100**	**3.1300e-003**	**0.4131**	**0.1093**	**2.9000e-003**	**0.1122**	**0.0000**	**362.7452**	**362.7452**	**0.0125**	**0.0000**	**363.0577**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1380	1.2869	1.2877	2.3000e-003		0.0590	0.0590		0.0558	0.0558	0.0000	196.6295	196.6295	0.0476	0.0000	197.8191
Total	**0.1380**	**1.2869**	**1.2877**	**2.3000e-003**		**0.0590**	**0.0590**		**0.0558**	**0.0558**	**0.0000**	**196.6295**	**196.6295**	**0.0476**	**0.0000**	**197.8191**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9800e-003	0.0631	0.0162	1.5000e-004	3.5300e-003	2.1000e-004	3.7300e-003	1.0200e-003	2.0000e-004	1.2200e-003	0.0000	14.2518	14.2518	3.9000e-004	0.0000	14.2615
Worker	0.0835	0.0695	0.6530	1.7200e-003	0.1948	1.2300e-003	0.1961	0.0518	1.1300e-003	0.0530	0.0000	155.3192	155.3192	4.8900e-003	0.0000	155.4414
Total	**0.0854**	**0.1326**	**0.6692**	**1.8700e-003**	**0.1984**	**1.4400e-003**	**0.1998**	**0.0529**	**1.3300e-003**	**0.0542**	**0.0000**	**169.5710**	**169.5710**	**5.2800e-003**	**0.0000**	**169.7029**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0590	1.2088	1.4731	2.3000e-003		0.0110	0.0110		0.0110	0.0110	0.0000	196.6293	196.6293	0.0476	0.0000	197.8188
Total	**0.0590**	**1.2088**	**1.4731**	**2.3000e-003**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**196.6293**	**196.6293**	**0.0476**	**0.0000**	**197.8188**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9800e-003	0.0631	0.0162	1.5000e-004	3.5300e-003	2.1000e-004	3.7300e-003	1.0200e-003	2.0000e-004	1.2200e-003	0.0000	14.2518	14.2518	3.9000e-004	0.0000	14.2615
Worker	0.0835	0.0695	0.6530	1.7200e-003	0.1948	1.2300e-003	0.1961	0.0518	1.1300e-003	0.0530	0.0000	155.3192	155.3192	4.8900e-003	0.0000	155.4414
Total	**0.0854**	**0.1326**	**0.6692**	**1.8700e-003**	**0.1984**	**1.4400e-003**	**0.1998**	**0.0529**	**1.3300e-003**	**0.0542**	**0.0000**	**169.5710**	**169.5710**	**5.2800e-003**	**0.0000**	**169.7029**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.4000e-003	0.0928	0.1208	1.8000e-004		4.7900e-003	4.7900e-003		4.4100e-003	4.4100e-003	0.0000	15.9376	15.9376	5.0500e-003	0.0000	16.0640
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.4000e-003**	**0.0928**	**0.1208**	**1.8000e-004**		**4.7900e-003**	**4.7900e-003**		**4.4100e-003**	**4.4100e-003**	**0.0000**	**15.9376**	**15.9376**	**5.0500e-003**	**0.0000**	**16.0640**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.6400e-003	0.0154	4.0000e-005	4.5800e-003	3.0000e-005	4.6100e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.6546	3.6546	1.1000e-004	0.0000	3.6574
Total	**1.9600e-003**	**1.6400e-003**	**0.0154**	**4.0000e-005**	**4.5800e-003**	**3.0000e-005**	**4.6100e-003**	**1.2200e-003**	**3.0000e-005**	**1.2500e-003**	**0.0000**	**3.6546**	**3.6546**	**1.1000e-004**	**0.0000**	**3.6574**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3200e-003	0.0912	0.1333	1.8000e-004		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	15.9376	15.9376	5.0500e-003	0.0000	16.0640
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.3200e-003**	**0.0912**	**0.1333**	**1.8000e-004**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**15.9376**	**15.9376**	**5.0500e-003**	**0.0000**	**16.0640**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.6400e-003	0.0154	4.0000e-005	4.5800e-003	3.0000e-005	4.6100e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.6546	3.6546	1.1000e-004	0.0000	3.6574
Total	**1.9600e-003**	**1.6400e-003**	**0.0154**	**4.0000e-005**	**4.5800e-003**	**3.0000e-005**	**4.6100e-003**	**1.2200e-003**	**3.0000e-005**	**1.2500e-003**	**0.0000**	**3.6546**	**3.6546**	**1.1000e-004**	**0.0000**	**3.6574**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4403					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0123	0.0845	0.1088	1.8000e-004		4.9000e-003	4.9000e-003		4.9000e-003	4.9000e-003	0.0000	15.3195	15.3195	1.0000e-003	0.0000	15.3445
Total	**0.4526**	**0.0845**	**0.1088**	**1.8000e-004**		**4.9000e-003**	**4.9000e-003**		**4.9000e-003**	**4.9000e-003**	**0.0000**	**15.3195**	**15.3195**	**1.0000e-003**	**0.0000**	**15.3445**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8900e-003	4.9100e-003	0.0461	1.2000e-004	0.0138	9.0000e-005	0.0138	3.6600e-003	8.0000e-005	3.7400e-003	0.0000	10.9637	10.9637	3.4000e-004	0.0000	10.9723
Total	**5.8900e-003**	**4.9100e-003**	**0.0461**	**1.2000e-004**	**0.0138**	**9.0000e-005**	**0.0138**	**3.6600e-003**	**8.0000e-005**	**3.7400e-003**	**0.0000**	**10.9637**	**10.9637**	**3.4000e-004**	**0.0000**	**10.9723**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4403					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5700e-003	0.0814	0.1099	1.8000e-004		8.6000e-004	8.6000e-004		8.6000e-004	8.6000e-004	0.0000	15.3195	15.3195	1.0000e-003	0.0000	15.3444
Total	**0.4439**	**0.0814**	**0.1099**	**1.8000e-004**		**8.6000e-004**	**8.6000e-004**		**8.6000e-004**	**8.6000e-004**	**0.0000**	**15.3195**	**15.3195**	**1.0000e-003**	**0.0000**	**15.3444**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8900e-003	4.9100e-003	0.0461	1.2000e-004	0.0138	9.0000e-005	0.0138	3.6600e-003	8.0000e-005	3.7400e-003	0.0000	10.9637	10.9637	3.4000e-004	0.0000	10.9723
Total	**5.8900e-003**	**4.9100e-003**	**0.0461**	**1.2000e-004**	**0.0138**	**9.0000e-005**	**0.0138**	**3.6600e-003**	**8.0000e-005**	**3.7400e-003**	**0.0000**	**10.9637**	**10.9637**	**3.4000e-004**	**0.0000**	**10.9723**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1731	0.5731	1.7003	4.1000e-003	0.3748	4.6000e-003	0.3793	0.1005	4.3100e-003	0.1048	0.0000	372.9495	372.9495	0.0153	0.0000	373.3307
Unmitigated	0.1731	0.5731	1.7003	4.1000e-003	0.3748	4.6000e-003	0.3793	0.1005	4.3100e-003	0.1048	0.0000	372.9495	372.9495	0.0153	0.0000	373.3307

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	578.25	578.25	578.25	1,015,370	1,015,370
General Office Building	0.00	0.00	0.00		
Total	578.25	578.25	578.25	1,015,370	1,015,370

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	14.70	6.60	6.60	0.00	81.00	19.00	66	28	6
General Office Building	14.70	6.60	6.60	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.623397	0.028959	0.171958	0.109598	0.026189	0.005295	0.008094	0.015285	0.001696	0.001924	0.005627	0.001125	0.000852
General Office Building	0.623397	0.028959	0.171958	0.109598	0.026189	0.005295	0.008094	0.015285	0.001696	0.001924	0.005627	0.001125	0.000852

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	69.4987	69.4987	0.0111	2.3000e-003	70.4607
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	69.4987	69.4987	0.0111	2.3000e-003	70.4607
NaturalGas Mitigated	9.8500e-003	0.0895	0.0752	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	97.4557	97.4557	1.8700e-003	1.7900e-003	98.0348
NaturalGas Unmitigated	9.8500e-003	0.0895	0.0752	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	97.4557	97.4557	1.8700e-003	1.7900e-003	98.0348

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	1.56525e+006	8.4400e-003	0.0767	0.0645	4.6000e-004		5.8300e-003	5.8300e-003		5.8300e-003	5.8300e-003	0.0000	83.5277	83.5277	1.6000e-003	1.5300e-003	84.0241
General Office Building	261000	1.4100e-003	0.0128	0.0108	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	13.9280	13.9280	2.7000e-004	2.6000e-004	14.0107
Total		**9.8500e-003**	**0.0895**	**0.0752**	**5.4000e-004**		**6.8000e-003**	**6.8000e-003**		**6.8000e-003**	**6.8000e-003**	**0.0000**	**97.4557**	**97.4557**	**1.8700e-003**	**1.7900e-003**	**98.0348**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	1.56525e+006	8.4400e-003	0.0767	0.0645	4.6000e-004		5.8300e-003	5.8300e-003		5.8300e-003	5.8300e-003	0.0000	83.5277	83.5277	1.6000e-003	1.5300e-003	84.0241
General Office Building	261000	1.4100e-003	0.0128	0.0108	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	13.9280	13.9280	2.7000e-004	2.6000e-004	14.0107
Total		**9.8500e-003**	**0.0895**	**0.0752**	**5.4000e-004**		**6.8000e-003**	**6.8000e-003**		**6.8000e-003**	**6.8000e-003**	**0.0000**	**97.4557**	**97.4557**	**1.8700e-003**	**1.7900e-003**	**98.0348**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	661500	54.4773	8.7000e-003	1.8000e-003	55.2314
General Office Building	182400	15.0214	2.4000e-003	5.0000e-004	15.2293
Total		**69.4987**	**0.0111**	**2.3000e-003**	**70.4607**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	661500	54.4773	8.7000e-003	1.8000e-003	55.2314
General Office Building	182400	15.0214	2.4000e-003	5.0000e-004	15.2293
Total		**69.4987**	**0.0111**	**2.3000e-003**	**70.4607**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4812	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-003	1.7000e-003	0.0000	0.0000	1.8100e-003
Unmitigated	0.4812	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-003	1.7000e-003	0.0000	0.0000	1.8100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3710					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-003	1.7000e-003	0.0000	0.0000	1.8100e-003
Total	**0.4812**	**1.0000e-005**	**8.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.7000e-003**	**1.7000e-003**	**0.0000**	**0.0000**	**1.8100e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3710					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-003	1.7000e-003	0.0000	0.0000	1.8100e-003
Total	**0.4812**	**1.0000e-005**	**8.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.7000e-003**	**1.7000e-003**	**0.0000**	**0.0000**	**1.8100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	28.5809	1.1713	0.0282	66.2560
Unmitigated	28.5809	1.1713	0.0282	66.2560

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	32.3078 / 2.0622	25.2411	1.0551	0.0254	59.1749
General Office Building	3.55467 / 2.17867	3.3397	0.1162	2.8100e-003	7.0811
Total		**28.5809**	**1.1713**	**0.0282**	**66.2560**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	32.3078 / 2.0622	25.2411	1.0551	0.0254	59.1749
General Office Building	3.55467 / 2.17867	3.3397	0.1162	2.8100e-003	7.0811
Total		**28.5809**	**1.1713**	**0.0282**	**66.2560**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.1938	0.2479	0.0000	10.3900
Unmitigated	4.1938	0.2479	0.0000	10.3900

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	2.06	0.4182	0.0247	0.0000	1.0360
General Office Building	18.6	3.7756	0.2231	0.0000	9.3540
Total		**4.1938**	**0.2478**	**0.0000**	**10.3900**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	2.06	0.4182	0.0247	0.0000	1.0360
General Office Building	18.6	3.7756	0.2231	0.0000	9.3540
Total		**4.1938**	**0.2478**	**0.0000**	**10.3900**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Enterprise Casino Expansion

Yuba County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	20.00	1000sqft	0.46	20,000.00	0
Arena	75.00	1000sqft	2.00	75,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	72
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	181.56	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PGE carbon intensity adjusted based on CA RPS.

Land Use - Site Plan

Off-road Equipment -

Off-road Equipment - Project Description

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Based on total 725 workers.

Grading -

Vehicle Trips - Based on traffic study.

Energy Use -

Architectural Coating - Emission factors adjusted to account for FRAQMD Rule 3.15

Construction Phase - Project Schedule

Construction Off-road Equipment Mitigation - Tier 3 Equip

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 2
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	32.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

Enterprise Casino Expansion - Yuba County, Summer

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	220.00	230.00
tblConstructionPhase	NumDays	6.00	10.00
tblConstructionPhase	NumDays	3.00	10.00
tblConstructionPhase	PhaseEndDate	4/14/2022	6/9/2022
tblConstructionPhase	PhaseEndDate	3/17/2022	4/15/2022
tblConstructionPhase	PhaseEndDate	5/13/2021	5/28/2021
tblConstructionPhase	PhaseEndDate	3/31/2022	4/29/2022
tblConstructionPhase	PhaseEndDate	5/5/2021	5/14/2021
tblConstructionPhase	PhaseStartDate	4/1/2022	4/29/2022
tblConstructionPhase	PhaseStartDate	5/14/2021	5/29/2021
tblConstructionPhase	PhaseStartDate	5/6/2021	5/15/2021
tblConstructionPhase	PhaseStartDate	3/18/2022	4/16/2022
tblGrading	AcresOfGrading	5.00	3.00
tblGrading	AcresOfGrading	15.00	4.50
tblGrading	MaterialImported	0.00	4,000.00
tblGrading	MaterialImported	0.00	4,000.00
tblLandUse	LotAcreage	24.11	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	10.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	181.56
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	10.00	16.00

tblTripsAndVMT	WorkerTripNumber	38.00	500.00
tblTripsAndVMT	WorkerTripNumber	15.00	27.00
tblTripsAndVMT	WorkerTripNumber	8.00	27.00
tblVehicleTrips	ST_TR	10.71	7.71
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	10.71	7.71
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	10.71	7.71
tblVehicleTrips	WD_TR	11.03	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	9.0329	66.8393	93.5364	0.1787	7.4891	2.6036	9.0876	3.6471	2.4268	4.5489	0.0000	17,365.2316	17,365.2316	3.4236	0.0000	17,450.8210
2022	30.8149	60.2425	89.8082	0.1764	6.4840	2.2630	8.7471	1.7217	2.1093	3.8310	0.0000	17,138.8276	17,138.8276	3.3849	0.0000	17,223.4496
Maximum	**30.8149**	**66.8393**	**93.5364**	**0.1787**	**7.4891**	**2.6036**	**9.0876**	**3.6471**	**2.4268**	**4.5489**	**0.0000**	**17,365.2316**	**17,365.2316**	**3.4236**	**0.0000**	**17,450.8210**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	6.0988	64.7503	104.4669	0.1787	7.4891	0.7968	7.6240	3.6471	0.7933	3.7792	0.0000	17,365.2316	17,365.2316	3.4236	0.0000	17,450.8210
2022	30.1494	64.3974	101.4116	0.1764	6.4840	0.7944	7.2784	1.7217	0.7911	2.5128	0.0000	17,138.8276	17,138.8276	3.3849	0.0000	17,223.4496
Maximum	**30.1494**	**64.7503**	**104.4669**	**0.1787**	**7.4891**	**0.7968**	**7.6240**	**3.6471**	**0.7933**	**3.7792**	**0.0000**	**17,365.2316**	**17,365.2316**	**3.4236**	**0.0000**	**17,450.8210**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**9.03**	**-1.63**	**-12.29**	**0.00**	**0.00**	**67.30**	**16.44**	**0.00**	**65.07**	**24.92**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.6371	9.0000e-005	9.7100e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0208	0.0208	5.0000e-005		0.0222
Energy	0.0540	0.4905	0.4121	2.9400e-003		0.0373	0.0373		0.0373	0.0373		588.6382	588.6382	0.0113	0.0108	592.1362
Mobile	1.2267	2.9917	10.0510	0.0244	2.1500	0.0252	2.1751	0.5744	0.0236	0.5980		2,450.7662	2,450.7662	0.0957		2,453.1593
Total	**3.9177**	**3.4823**	**10.4727**	**0.0274**	**2.1500**	**0.0625**	**2.2125**	**0.5744**	**0.0609**	**0.6353**		**3,039.4252**	**3,039.4252**	**0.1071**	**0.0108**	**3,045.3176**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.6371	9.0000e-005	9.7100e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0208	0.0208	5.0000e-005		0.0222
Energy	0.0540	0.4905	0.4121	2.9400e-003		0.0373	0.0373		0.0373	0.0373		588.6382	588.6382	0.0113	0.0108	592.1362
Mobile	1.2267	2.9917	10.0510	0.0244	2.1500	0.0252	2.1751	0.5744	0.0236	0.5980		2,450.7662	2,450.7662	0.0957		2,453.1593
Total	**3.9177**	**3.4823**	**10.4727**	**0.0274**	**2.1500**	**0.0625**	**2.2125**	**0.5744**	**0.0609**	**0.6353**		**3,039.4252**	**3,039.4252**	**0.1071**	**0.0108**	**3,045.3176**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2021	5/14/2021	5	10	
2	Grading	Grading	5/15/2021	5/28/2021	5	10	
3	Building Construction	Building Construction	5/29/2021	4/15/2022	5	230	
4	Paving	Paving	4/16/2022	4/29/2022	5	10	
5	Architectural Coating	Architectural Coating	4/29/2022	6/9/2022	5	30	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 142,500; Non-Residential Outdoor: 47,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Enterprise Casino Expansion - Yuba County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Aerial Lifts	32	8.00	63	0.31
Building Construction	Cranes	5	8.00	231	0.29
Building Construction	Forklifts	10	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	500.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	16.00	0.00	500.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	52	500.00	16.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	27.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	27.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5569	0.0000	0.5569	0.0636	0.0000	0.0636			0.0000			0.0000
Off-Road	1.5463	18.2862	10.7496	0.0245		0.7019	0.7019		0.6457	0.6457		2,372.8832	2,372.8832	0.7674		2,392.0692
Total	**1.5463**	**18.2862**	**10.7496**	**0.0245**	**0.5569**	**0.7019**	**1.2588**	**0.0636**	**0.6457**	**0.7093**		**2,372.8832**	**2,372.8832**	**0.7674**		**2,392.0692**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3772	14.3060	2.9296	0.0406	0.8649	0.0608	0.9257	0.2363	0.0582	0.2944		4,250.5062	4,250.5062	0.0664		4,252.1664
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0508	0.0353	0.4381	9.9000e-004	0.1022	6.4000e-004	0.1028	0.0271	5.9000e-004	0.0277		98.8088	98.8088	3.5300e-003		98.8970
Total	**0.4280**	**14.3412**	**3.3677**	**0.0416**	**0.9671**	**0.0615**	**1.0285**	**0.2634**	**0.0588**	**0.3221**		**4,349.3150**	**4,349.3150**	**0.0699**		**4,351.0634**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5569	0.0000	0.5569	0.0636	0.0000	0.0636			0.0000			0.0000
Off-Road	1.1582	15.3575	12.5698	0.0245		0.4502	0.4502		0.4169	0.4169	0.0000	2,372.8832	2,372.8832	0.7674		2,392.0692
Total	**1.1582**	**15.3575**	**12.5698**	**0.0245**	**0.5569**	**0.4502**	**1.0071**	**0.0636**	**0.4169**	**0.4805**	**0.0000**	**2,372.8832**	**2,372.8832**	**0.7674**		**2,392.0692**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3772	14.3060	2.9296	0.0406	0.8649	0.0608	0.9257	0.2363	0.0582	0.2944		4,250.5062	4,250.5062	0.0664		4,252.1664
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0508	0.0353	0.4381	9.9000e-004	0.1022	6.4000e-004	0.1028	0.0271	5.9000e-004	0.0277		98.8088	98.8088	3.5300e-003		98.8970
Total	**0.4280**	**14.3412**	**3.3677**	**0.0416**	**0.9671**	**0.0615**	**1.0285**	**0.2634**	**0.0588**	**0.3221**		**4,349.3150**	**4,349.3150**	**0.0699**		**4,351.0634**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.4199	0.0000	6.4199	3.3566	0.0000	3.3566			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**6.4199**	**0.9158**	**7.3357**	**3.3566**	**0.8425**	**4.1991**		**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3772	14.3060	2.9296	0.0406	0.8649	0.0608	0.9257	0.2363	0.0582	0.2944		4,250.5062	4,250.5062	0.0664		4,252.1664
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1016	0.0705	0.8763	1.9900e-003	0.2044	1.2900e-003	0.2057	0.0542	1.1900e-003	0.0554		197.6176	197.6176	7.0600e-003		197.7941
Total	**0.4788**	**14.3765**	**3.8059**	**0.0426**	**1.0692**	**0.0621**	**1.1313**	**0.2905**	**0.0594**	**0.3498**		**4,448.1238**	**4,448.1238**	**0.0735**		**4,449.9605**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.4199	0.0000	6.4199	3.3566	0.0000	3.3566			0.0000			0.0000
Off-Road	0.5043	10.2150	12.1450	0.0206		0.0728	0.0728		0.0728	0.0728	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**0.5043**	**10.2150**	**12.1450**	**0.0206**	**6.4199**	**0.0728**	**6.4927**	**3.3566**	**0.0728**	**3.4294**	**0.0000**	**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3772	14.3060	2.9296	0.0406	0.8649	0.0608	0.9257	0.2363	0.0582	0.2944		4,250.5062	4,250.5062	0.0664		4,252.1664
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1016	0.0705	0.8763	1.9900e-003	0.2044	1.2900e-003	0.2057	0.0542	1.1900e-003	0.0554		197.6176	197.6176	7.0600e-003		197.7941
Total	**0.4788**	**14.3765**	**3.8059**	**0.0426**	**1.0692**	**0.0621**	**1.1313**	**0.2905**	**0.0594**	**0.3498**		**4,448.1238**	**4,448.1238**	**0.0735**		**4,449.9605**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.8015	62.8983	65.6791	0.1126		2.5572	2.5572		2.3839	2.3839		10,763.9415	10,763.9415	3.1913		10,843.7243
Total	**5.8015**	**62.8983**	**65.6791**	**0.1126**		**2.5572**	**2.5572**		**2.3839**	**2.3839**		**10,763.9415**	**10,763.9415**	**3.1913**		**10,843.7243**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0577	1.7378	0.4733	4.0800e-003	0.0975	6.1000e-003	0.1036	0.0280	5.8300e-003	0.0339		425.7411	425.7411	0.0117		426.0325
Worker	3.1737	2.2033	27.3840	0.0621	6.3865	0.0403	6.4268	1.6936	0.0371	1.7308		6,175.5490	6,175.5490	0.2206		6,181.0642
Total	**3.2314**	**3.9410**	**27.8573**	**0.0662**	**6.4840**	**0.0464**	**6.5304**	**1.7217**	**0.0429**	**1.7646**		**6,601.2901**	**6,601.2901**	**0.2323**		**6,607.0967**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8674	60.8092	76.6096	0.1126		0.7504	0.7504		0.7504	0.7504	0.0000	10,763.9415	10,763.9415	3.1913		10,843.7243
Total	**2.8674**	**60.8092**	**76.6096**	**0.1126**		**0.7504**	**0.7504**		**0.7504**	**0.7504**	**0.0000**	**10,763.9415**	**10,763.9415**	**3.1913**		**10,843.7243**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0577	1.7378	0.4733	4.0800e-003	0.0975	6.1000e-003	0.1036	0.0280	5.8300e-003	0.0339		425.7411	425.7411	0.0117		426.0325
Worker	3.1737	2.2033	27.3840	0.0621	6.3865	0.0403	6.4268	1.6936	0.0371	1.7308		6,175.5490	6,175.5490	0.2206		6,181.0642
Total	**3.2314**	**3.9410**	**27.8573**	**0.0662**	**6.4840**	**0.0464**	**6.5304**	**1.7217**	**0.0429**	**1.7646**		**6,601.2901**	**6,601.2901**	**0.2323**		**6,607.0967**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.2968	56.6543	65.0062	0.1126		2.2190	2.2190		2.0686	2.0686		10,764.6536	10,764.6536	3.1828		10,844.2230
Total	**5.2968**	**56.6543**	**65.0062**	**0.1126**		**2.2190**	**2.2190**		**2.0686**	**2.0686**		**10,764.6536**	**10,764.6536**	**3.1828**		**10,844.2230**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0520	1.6461	0.4025	4.0500e-003	0.0975	5.3800e-003	0.1029	0.0280	5.1500e-003	0.0332		423.4162	423.4162	0.0109		423.6878
Worker	2.9091	1.9421	24.3995	0.0598	6.3865	0.0386	6.4252	1.6936	0.0356	1.7292		5,950.7577	5,950.7577	0.1912		5,955.5388
Total	**2.9611**	**3.5882**	**24.8019**	**0.0638**	**6.4840**	**0.0440**	**6.5280**	**1.7217**	**0.0407**	**1.7624**		**6,374.1740**	**6,374.1740**	**0.2021**		**6,379.2266**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8674	60.8092	76.6096	0.1126		0.7504	0.7504		0.7504	0.7504	0.0000	10,764.6536	10,764.6536	3.1828		10,844.2230
Total	**2.8674**	**60.8092**	**76.6096**	**0.1126**		**0.7504**	**0.7504**		**0.7504**	**0.7504**	**0.0000**	**10,764.6536**	**10,764.6536**	**3.1828**		**10,844.2230**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0520	1.6461	0.4025	4.0500e-003	0.0975	5.3800e-003	0.1029	0.0280	5.1500e-003	0.0332		423.4162	423.4162	0.0109		423.6878
Worker	2.9091	1.9421	24.3995	0.0598	6.3865	0.0386	6.4252	1.6936	0.0356	1.7292		5,950.7577	5,950.7577	0.1912		5,955.5388
Total	**2.9611**	**3.5882**	**24.8019**	**0.0638**	**6.4840**	**0.0440**	**6.5280**	**1.7217**	**0.0407**	**1.7624**		**6,374.1740**	**6,374.1740**	**0.2021**		**6,379.2266**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9412**	**9.3322**	**11.6970**	**0.0179**		**0.4879**	**0.4879**		**0.4500**	**0.4500**		**1,709.6892**	**1,709.6892**	**0.5419**		**1,723.2356**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1571	0.1049	1.3176	3.2300e-003	0.3449	2.0900e-003	0.3470	0.0915	1.9200e-003	0.0934		321.3409	321.3409	0.0103		321.5991
Total	**0.1571**	**0.1049**	**1.3176**	**3.2300e-003**	**0.3449**	**2.0900e-003**	**0.3470**	**0.0915**	**1.9200e-003**	**0.0934**		**321.3409**	**321.3409**	**0.0103**		**321.5991**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4208	8.8511	12.9737	0.0179		0.0794	0.0794		0.0794	0.0794	0.0000	1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4208**	**8.8511**	**12.9737**	**0.0179**		**0.0794**	**0.0794**		**0.0794**	**0.0794**	**0.0000**	**1,709.6892**	**1,709.6892**	**0.5419**		**1,723.2356**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1571	0.1049	1.3176	3.2300e-003	0.3449	2.0900e-003	0.3470	0.0915	1.9200e-003	0.0934		321.3409	321.3409	0.0103		321.5991
Total	**0.1571**	**0.1049**	**1.3176**	**3.2300e-003**	**0.3449**	**2.0900e-003**	**0.3470**	**0.0915**	**1.9200e-003**	**0.0934**		**321.3409**	**321.3409**	**0.0103**		**321.5991**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	29.3550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**29.5595**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1571	0.1049	1.3176	3.2300e-003	0.3449	2.0900e-003	0.3470	0.0915	1.9200e-003	0.0934		321.3409	321.3409	0.0103		321.5991
Total	**0.1571**	**0.1049**	**1.3176**	**3.2300e-003**	**0.3449**	**2.0900e-003**	**0.3470**	**0.0915**	**1.9200e-003**	**0.0934**		**321.3409**	**321.3409**	**0.0103**		**321.5991**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	29.3550					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0143	0.0143		0.0143	0.0143	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**29.4144**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1571	0.1049	1.3176	3.2300e-003	0.3449	2.0900e-003	0.3470	0.0915	1.9200e-003	0.0934		321.3409	321.3409	0.0103		321.5991
Total	**0.1571**	**0.1049**	**1.3176**	**3.2300e-003**	**0.3449**	**2.0900e-003**	**0.3470**	**0.0915**	**1.9200e-003**	**0.0934**		**321.3409**	**321.3409**	**0.0103**		**321.5991**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2267	2.9917	10.0510	0.0244	2.1500	0.0252	2.1751	0.5744	0.0236	0.5980		2,450.7662	2,450.7662	0.0957		2,453.1593
Unmitigated	1.2267	2.9917	10.0510	0.0244	2.1500	0.0252	2.1751	0.5744	0.0236	0.5980		2,450.7662	2,450.7662	0.0957		2,453.1593

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	578.25	578.25	578.25	1,015,370	1,015,370
General Office Building	0.00	0.00	0.00		
Total	578.25	578.25	578.25	1,015,370	1,015,370

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	14.70	6.60	6.60	0.00	81.00	19.00	66	28	6
General Office Building	14.70	6.60	6.60	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.623397	0.028959	0.171958	0.109598	0.026189	0.005295	0.008094	0.015285	0.001696	0.001924	0.005627	0.001125	0.000852
General Office Building	0.623397	0.028959	0.171958	0.109598	0.026189	0.005295	0.008094	0.015285	0.001696	0.001924	0.005627	0.001125	0.000852

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0540	0.4905	0.4121	2.9400e-003		0.0373	0.0373		0.0373	0.0373		588.6382	588.6382	0.0113	0.0108	592.1362
NaturalGas Unmitigated	0.0540	0.4905	0.4121	2.9400e-003		0.0373	0.0373		0.0373	0.0373		588.6382	588.6382	0.0113	0.0108	592.1362

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	4288.36	0.0463	0.4204	0.3532	2.5200e-003		0.0320	0.0320		0.0320	0.0320		504.5125	504.5125	9.6700e-003	9.2500e-003	507.5106
General Office Building	715.068	7.7100e-003	0.0701	0.0589	4.2000e-004		5.3300e-003	5.3300e-003		5.3300e-003	5.3300e-003		84.1257	84.1257	1.6100e-003	1.5400e-003	84.6256
Total		**0.0540**	**0.4905**	**0.4121**	**2.9400e-003**		**0.0373**	**0.0373**		**0.0373**	**0.0373**		**588.6382**	**588.6382**	**0.0113**	**0.0108**	**592.1362**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	4.28836	0.0463	0.4204	0.3532	2.5200e-003		0.0320	0.0320		0.0320	0.0320		504.5125	504.5125	9.6700e-003	9.2500e-003	507.5106
General Office Building	0.715068	7.7100e-003	0.0701	0.0589	4.2000e-004		5.3300e-003	5.3300e-003		5.3300e-003	5.3300e-003		84.1257	84.1257	1.6100e-003	1.5400e-003	84.6256
Total		**0.0540**	**0.4905**	**0.4121**	**2.9400e-003**		**0.0373**	**0.0373**		**0.0373**	**0.0373**		**588.6382**	**588.6382**	**0.0113**	**0.0108**	**592.1362**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.6371	9.0000e-005	9.7100e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0208	0.0208	5.0000e-005		0.0222
Unmitigated	2.6371	9.0000e-005	9.7100e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0208	0.0208	5.0000e-005		0.0222

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6032					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0330					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-004	9.0000e-005	9.7100e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0208	0.0208	5.0000e-005		0.0222
Total	**2.6371**	**9.0000e-005**	**9.7100e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0208**	**0.0208**	**5.0000e-005**		**0.0222**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6032					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0330					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-004	9.0000e-005	9.7100e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0208	0.0208	5.0000e-005		0.0222
Total	**2.6371**	**9.0000e-005**	**9.7100e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0208**	**0.0208**	**5.0000e-005**		**0.0222**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Enterprise Casino Expansion

Yuba County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	20.00	1000sqft	0.46	20,000.00	0
Arena	75.00	1000sqft	2.00	75,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	72
Climate Zone	3			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	181.56	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PGE carbon intensity adjusted based on CA RPS.

Land Use - Site Plan

Construction Phase - Project Schedule

Off-road Equipment - PD

Off-road Equipment - Project Description

Off-road Equipment -

Off-road Equipment - PD

Off-road Equipment - PD

Off-road Equipment - PD

Trips and VMT - Based on total 725 workers.

Grading - PD

Architectural Coating - Emission factors adjusted to account for FRAQMD Rule 3.15

Vehicle Trips - Based on traffic study.

Energy Use -

Construction Off-road Equipment Mitigation - Tier 3 Equip

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	15.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblGrading	AcresOfGrading	10.00	3.00
tblGrading	AcresOfGrading	30.00	4.50
tblGrading	MaterialImported	0.00	4,000.00
tblGrading	MaterialImported	0.00	4,000.00
tblLandUse	LotAcreage	24.11	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	181.56
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	18.00	75.00

tblTripsAndVMT	WorkerTripNumber	20.00	75.00
tblTripsAndVMT	WorkerTripNumber	38.00	425.00
tblTripsAndVMT	WorkerTripNumber	30.00	75.00
tblTripsAndVMT	WorkerTripNumber	8.00	75.00
tblVehicleTrips	ST_TR	10.71	7.71
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	10.71	7.71
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	10.71	7.71
tblVehicleTrips	WD_TR	11.03	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.5647	3.8239	4.6991	0.0100	0.5165	0.1640	0.6805	0.1540	0.1546	0.3086	0.0000	883.0083	883.0083	0.1260	0.0000	886.1575
2022	0.6186	1.1463	1.5967	3.3200e-003	0.1520	0.0500	0.2020	0.0405	0.0472	0.0877	0.0000	292.0177	292.0177	0.0437	0.0000	293.1095
Maximum	**0.6186**	**3.8239**	**4.6991**	**0.0100**	**0.5165**	**0.1640**	**0.6805**	**0.1540**	**0.1546**	**0.3086**	**0.0000**	**883.0083**	**883.0083**	**0.1260**	**0.0000**	**886.1575**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3487	3.2578	5.0900	0.0100	0.4808	0.0300	0.5108	0.1355	0.0297	0.1652	0.0000	883.0077	883.0077	0.1260	0.0000	886.1569
2022	0.5537	1.0874	1.7431	3.3200e-003	0.1520	0.0101	0.1621	0.0405	0.0100	0.0505	0.0000	292.0175	292.0175	0.0437	0.0000	293.1093
Maximum	**0.5537**	**3.2578**	**5.0900**	**0.0100**	**0.4808**	**0.0300**	**0.5108**	**0.1355**	**0.0297**	**0.1652**	**0.0000**	**883.0077**	**883.0077**	**0.1260**	**0.0000**	**886.1569**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**23.74**	**12.58**	**-8.54**	**0.00**	**5.35**	**81.25**	**23.75**	**9.51**	**80.35**	**45.58**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2021	7-31-2021	1.7338	1.4176
2	8-1-2021	10-31-2021	1.6038	1.3252
3	11-1-2021	1-31-2022	1.5600	1.3289
4	2-1-2022	4-30-2022	1.2934	1.2154
		Highest	1.7338	1.4176

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4812	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-003	1.7000e-003	0.0000	0.0000	1.8100e-003
Energy	9.8500e-003	0.0895	0.0752	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	166.9544	166.9544	0.0130	4.0800e-003	168.4955
Mobile	0.0694	0.2522	0.7085	2.8300e-003	0.3728	1.7300e-003	0.3745	0.0996	1.6000e-003	0.1012	0.0000	258.6372	258.6372	6.0200e-003	0.0000	258.7876
Waste						0.0000	0.0000		0.0000	0.0000	4.1938	0.0000	4.1938	0.2479	0.0000	10.3900
Water						0.0000	0.0000		0.0000	0.0000	11.3775	17.2034	28.5809	1.1713	0.0282	66.2560
Total	**0.5604**	**0.3417**	**0.7845**	**3.3700e-003**	**0.3728**	**8.5300e-003**	**0.3813**	**0.0996**	**8.4000e-003**	**0.1080**	**15.5713**	**442.7966**	**458.3679**	**1.4382**	**0.0322**	**503.9309**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4812	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-003	1.7000e-003	0.0000	0.0000	1.8100e-003
Energy	9.8500e-003	0.0895	0.0752	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	166.9544	166.9544	0.0130	4.0800e-003	168.4955
Mobile	0.0694	0.2522	0.7085	2.8300e-003	0.3728	1.7300e-003	0.3745	0.0996	1.6000e-003	0.1012	0.0000	258.6372	258.6372	6.0200e-003	0.0000	258.7876
Waste						0.0000	0.0000		0.0000	0.0000	4.1938	0.0000	4.1938	0.2479	0.0000	10.3900
Water						0.0000	0.0000		0.0000	0.0000	11.3775	17.2034	28.5809	1.1713	0.0282	66.2560
Total	**0.5604**	**0.3417**	**0.7845**	**3.3700e-003**	**0.3728**	**8.5300e-003**	**0.3813**	**0.0996**	**8.4000e-003**	**0.1080**	**15.5713**	**442.7966**	**458.3679**	**1.4382**	**0.0322**	**503.9309**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2021	5/5/2021	5	3	
2	Grading	Grading	5/6/2021	5/13/2021	5	6	
3	Building Construction	Building Construction	5/14/2021	3/17/2022	5	220	
4	Paving	Paving	3/18/2022	3/31/2022	5	10	
5	Architectural Coating	Architectural Coating	4/1/2022	4/14/2022	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 142,500; Non-Residential Outdoor: 47,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	2	8.00	187	0.41
Site Preparation	Scrapers	2	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	2	8.00	187	0.41
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	4	7.00	97	0.37
Building Construction	Aerial Lifts	8	5.00	63	0.31
Building Construction	Cranes	3	8.00	231	0.29
Building Construction	Forklifts	4	7.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Architectural Coating	Air Compressors	4	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	75.00	0.00	500.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	75.00	0.00	500.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	24	425.00	16.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	75.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	75.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7800e-003	0.0000	2.7800e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8800e-003	0.0574	0.0352	8.0000e-005		2.2500e-003	2.2500e-003		2.0700e-003	2.0700e-003	0.0000	6.8162	6.8162	2.2000e-003	0.0000	6.8713
Total	**4.8800e-003**	**0.0574**	**0.0352**	**8.0000e-005**	**2.7800e-003**	**2.2500e-003**	**5.0300e-003**	**3.2000e-004**	**2.0700e-003**	**2.3900e-003**	**0.0000**	**6.8162**	**6.8162**	**2.2000e-003**	**0.0000**	**6.8713**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0743	0.0152	2.0000e-004	4.1600e-003	3.1000e-004	4.4700e-003	1.1400e-003	2.9000e-004	1.4400e-003	0.0000	19.1593	19.1593	3.1000e-004	0.0000	19.1672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	5.6000e-004	5.1900e-003	1.0000e-005	1.3800e-003	1.0000e-005	1.3800e-003	3.7000e-004	1.0000e-005	3.7000e-004	0.0000	1.1378	1.1378	4.0000e-005	0.0000	1.1388
Total	**2.5500e-003**	**0.0748**	**0.0203**	**2.1000e-004**	**5.5400e-003**	**3.2000e-004**	**5.8500e-003**	**1.5100e-003**	**3.0000e-004**	**1.8100e-003**	**0.0000**	**20.2971**	**20.2971**	**3.5000e-004**	**0.0000**	**20.3060**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2500e-003	0.0000	1.2500e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5700e-003	0.0484	0.0408	8.0000e-005		1.3700e-003	1.3700e-003		1.2700e-003	1.2700e-003	0.0000	6.8162	6.8162	2.2000e-003	0.0000	6.8713
Total	**3.5700e-003**	**0.0484**	**0.0408**	**8.0000e-005**	**1.2500e-003**	**1.3700e-003**	**2.6200e-003**	**1.4000e-004**	**1.2700e-003**	**1.4100e-003**	**0.0000**	**6.8162**	**6.8162**	**2.2000e-003**	**0.0000**	**6.8713**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0743	0.0152	2.0000e-004	4.1600e-003	3.1000e-004	4.4700e-003	1.1400e-003	2.9000e-004	1.4400e-003	0.0000	19.1593	19.1593	3.1000e-004	0.0000	19.1672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	5.6000e-004	5.1900e-003	1.0000e-005	1.3800e-003	1.0000e-005	1.3800e-003	3.7000e-004	1.0000e-005	3.7000e-004	0.0000	1.1378	1.1378	4.0000e-005	0.0000	1.1388
Total	**2.5500e-003**	**0.0748**	**0.0203**	**2.1000e-004**	**5.5400e-003**	**3.2000e-004**	**5.8500e-003**	**1.5100e-003**	**3.0000e-004**	**1.8100e-003**	**0.0000**	**20.2971**	**20.2971**	**3.5000e-004**	**0.0000**	**20.3060**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0622	0.0000	0.0622	0.0333	0.0000	0.0333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0110	0.1213	0.0586	1.2000e-004		5.4900e-003	5.4900e-003		5.0500e-003	5.0500e-003	0.0000	10.8623	10.8623	3.5100e-003	0.0000	10.9502
Total	**0.0110**	**0.1213**	**0.0586**	**1.2000e-004**	**0.0622**	**5.4900e-003**	**0.0677**	**0.0333**	**5.0500e-003**	**0.0384**	**0.0000**	**10.8623**	**10.8623**	**3.5100e-003**	**0.0000**	**10.9502**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0743	0.0152	2.0000e-004	4.1600e-003	3.1000e-004	4.4700e-003	1.1400e-003	2.9000e-004	1.4400e-003	0.0000	19.1593	19.1593	3.1000e-004	0.0000	19.1672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	1.1100e-003	0.0104	3.0000e-005	2.7500e-003	2.0000e-005	2.7700e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.2756	2.2756	8.0000e-005	0.0000	2.2776
Total	**3.1900e-003**	**0.0754**	**0.0255**	**2.3000e-004**	**6.9100e-003**	**3.3000e-004**	**7.2400e-003**	**1.8700e-003**	**3.1000e-004**	**2.1900e-003**	**0.0000**	**21.4349**	**21.4349**	**3.9000e-004**	**0.0000**	**21.4448**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0280	0.0000	0.0280	0.0150	0.0000	0.0150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0300e-003	0.0613	0.0729	1.2000e-004		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	10.8623	10.8623	3.5100e-003	0.0000	10.9501
Total	**3.0300e-003**	**0.0613**	**0.0729**	**1.2000e-004**	**0.0280**	**4.4000e-004**	**0.0284**	**0.0150**	**4.4000e-004**	**0.0154**	**0.0000**	**10.8623**	**10.8623**	**3.5100e-003**	**0.0000**	**10.9501**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9100e-003	0.0743	0.0152	2.0000e-004	4.1600e-003	3.1000e-004	4.4700e-003	1.1400e-003	2.9000e-004	1.4400e-003	0.0000	19.1593	19.1593	3.1000e-004	0.0000	19.1672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2800e-003	1.1100e-003	0.0104	3.0000e-005	2.7500e-003	2.0000e-005	2.7700e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.2756	2.2756	8.0000e-005	0.0000	2.2776
Total	**3.1900e-003**	**0.0754**	**0.0255**	**2.3000e-004**	**6.9100e-003**	**3.3000e-004**	**7.2400e-003**	**1.8700e-003**	**3.1000e-004**	**2.1900e-003**	**0.0000**	**21.4349**	**21.4349**	**3.9000e-004**	**0.0000**	**21.4448**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3373	3.1726	2.8895	5.0800e-003		0.1522	0.1522		0.1438	0.1438	0.0000	435.1094	435.1094	0.1061	0.0000	437.7621
Total	**0.3373**	**3.1726**	**2.8895**	**5.0800e-003**		**0.1522**	**0.1522**		**0.1438**	**0.1438**	**0.0000**	**435.1094**	**435.1094**	**0.1061**	**0.0000**	**437.7621**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8500e-003	0.1476	0.0422	3.3000e-004	7.8100e-003	5.2000e-004	8.3200e-003	2.2600e-003	4.9000e-004	2.7500e-003	0.0000	31.7242	31.7242	9.2000e-004	0.0000	31.7472
Worker	0.2010	0.1748	1.6279	3.9500e-003	0.4313	2.8400e-003	0.4341	0.1147	2.6200e-003	0.1174	0.0000	356.7642	356.7642	0.0125	0.0000	357.0759
Total	**0.2058**	**0.3224**	**1.6700**	**4.2800e-003**	**0.4391**	**3.3600e-003**	**0.4424**	**0.1170**	**3.1100e-003**	**0.1201**	**0.0000**	**388.4884**	**388.4884**	**0.0134**	**0.0000**	**388.8231**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1305	2.6755	3.2605	5.0800e-003		0.0242	0.0242		0.0242	0.0242	0.0000	435.1088	435.1088	0.1061	0.0000	437.7616
Total	**0.1305**	**2.6755**	**3.2605**	**5.0800e-003**		**0.0242**	**0.0242**		**0.0242**	**0.0242**	**0.0000**	**435.1088**	**435.1088**	**0.1061**	**0.0000**	**437.7616**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8500e-003	0.1476	0.0422	3.3000e-004	7.8100e-003	5.2000e-004	8.3200e-003	2.2600e-003	4.9000e-004	2.7500e-003	0.0000	31.7242	31.7242	9.2000e-004	0.0000	31.7472
Worker	0.2010	0.1748	1.6279	3.9500e-003	0.4313	2.8400e-003	0.4341	0.1147	2.6200e-003	0.1174	0.0000	356.7642	356.7642	0.0125	0.0000	357.0759
Total	**0.2058**	**0.3224**	**1.6700**	**4.2800e-003**	**0.4391**	**3.3600e-003**	**0.4424**	**0.1170**	**3.1100e-003**	**0.1201**	**0.0000**	**388.4884**	**388.4884**	**0.0134**	**0.0000**	**388.8231**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0994	0.9266	0.9271	1.6500e-003		0.0425	0.0425		0.0401	0.0401	0.0000	141.5732	141.5732	0.0343	0.0000	142.4297
Total	**0.0994**	**0.9266**	**0.9271**	**1.6500e-003**		**0.0425**	**0.0425**		**0.0401**	**0.0401**	**0.0000**	**141.5732**	**141.5732**	**0.0343**	**0.0000**	**142.4297**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4200e-003	0.0454	0.0117	1.1000e-004	2.5400e-003	1.5000e-004	2.6900e-003	7.3000e-004	1.4000e-004	8.8000e-004	0.0000	10.2613	10.2613	2.8000e-004	0.0000	10.2683
Worker	0.0601	0.0501	0.4701	1.2400e-003	0.1403	8.9000e-004	0.1412	0.0373	8.2000e-004	0.0381	0.0000	111.8299	111.8299	3.5200e-003	0.0000	111.9178
Total	**0.0615**	**0.0955**	**0.4818**	**1.3500e-003**	**0.1428**	**1.0400e-003**	**0.1439**	**0.0381**	**9.6000e-004**	**0.0390**	**0.0000**	**122.0911**	**122.0911**	**3.8000e-003**	**0.0000**	**122.1861**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0425	0.8703	1.0606	1.6500e-003		7.8800e-003	7.8800e-003		7.8800e-003	7.8800e-003	0.0000	141.5731	141.5731	0.0343	0.0000	142.4296
Total	**0.0425**	**0.8703**	**1.0606**	**1.6500e-003**		**7.8800e-003**	**7.8800e-003**		**7.8800e-003**	**7.8800e-003**	**0.0000**	**141.5731**	**141.5731**	**0.0343**	**0.0000**	**142.4296**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4200e-003	0.0454	0.0117	1.1000e-004	2.5400e-003	1.5000e-004	2.6900e-003	7.3000e-004	1.4000e-004	8.8000e-004	0.0000	10.2613	10.2613	2.8000e-004	0.0000	10.2683
Worker	0.0601	0.0501	0.4701	1.2400e-003	0.1403	8.9000e-004	0.1412	0.0373	8.2000e-004	0.0381	0.0000	111.8299	111.8299	3.5200e-003	0.0000	111.9178
Total	**0.0615**	**0.0955**	**0.4818**	**1.3500e-003**	**0.1428**	**1.0400e-003**	**0.1439**	**0.0381**	**9.6000e-004**	**0.0390**	**0.0000**	**122.0911**	**122.0911**	**3.8000e-003**	**0.0000**	**122.1861**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.4000e-003	0.0928	0.1208	1.8000e-004		4.7900e-003	4.7900e-003		4.4100e-003	4.4100e-003	0.0000	15.9376	15.9376	5.0500e-003	0.0000	16.0640
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.4000e-003**	**0.0928**	**0.1208**	**1.8000e-004**		**4.7900e-003**	**4.7900e-003**		**4.4100e-003**	**4.4100e-003**	**0.0000**	**15.9376**	**15.9376**	**5.0500e-003**	**0.0000**	**16.0640**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.6400e-003	0.0154	4.0000e-005	4.5800e-003	3.0000e-005	4.6100e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.6546	3.6546	1.1000e-004	0.0000	3.6574
Total	**1.9600e-003**	**1.6400e-003**	**0.0154**	**4.0000e-005**	**4.5800e-003**	**3.0000e-005**	**4.6100e-003**	**1.2200e-003**	**3.0000e-005**	**1.2500e-003**	**0.0000**	**3.6546**	**3.6546**	**1.1000e-004**	**0.0000**	**3.6574**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3200e-003	0.0912	0.1333	1.8000e-004		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	15.9376	15.9376	5.0500e-003	0.0000	16.0640
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.3200e-003**	**0.0912**	**0.1333**	**1.8000e-004**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**15.9376**	**15.9376**	**5.0500e-003**	**0.0000**	**16.0640**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.6400e-003	0.0154	4.0000e-005	4.5800e-003	3.0000e-005	4.6100e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.6546	3.6546	1.1000e-004	0.0000	3.6574
Total	**1.9600e-003**	**1.6400e-003**	**0.0154**	**4.0000e-005**	**4.5800e-003**	**3.0000e-005**	**4.6100e-003**	**1.2200e-003**	**3.0000e-005**	**1.2500e-003**	**0.0000**	**3.6546**	**3.6546**	**1.1000e-004**	**0.0000**	**3.6574**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4403					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0900e-003	0.0282	0.0363	6.0000e-005		1.6300e-003	1.6300e-003		1.6300e-003	1.6300e-003	0.0000	5.1065	5.1065	3.3000e-004	0.0000	5.1148
Total	**0.4444**	**0.0282**	**0.0363**	**6.0000e-005**		**1.6300e-003**	**1.6300e-003**		**1.6300e-003**	**1.6300e-003**	**0.0000**	**5.1065**	**5.1065**	**3.3000e-004**	**0.0000**	**5.1148**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.6400e-003	0.0154	4.0000e-005	4.5800e-003	3.0000e-005	4.6100e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.6546	3.6546	1.1000e-004	0.0000	3.6574
Total	**1.9600e-003**	**1.6400e-003**	**0.0154**	**4.0000e-005**	**4.5800e-003**	**3.0000e-005**	**4.6100e-003**	**1.2200e-003**	**3.0000e-005**	**1.2500e-003**	**0.0000**	**3.6546**	**3.6546**	**1.1000e-004**	**0.0000**	**3.6574**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4403					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1900e-003	0.0271	0.0367	6.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	5.1065	5.1065	3.3000e-004	0.0000	5.1148
Total	**0.4415**	**0.0271**	**0.0367**	**6.0000e-005**		**2.9000e-004**	**2.9000e-004**		**2.9000e-004**	**2.9000e-004**	**0.0000**	**5.1065**	**5.1065**	**3.3000e-004**	**0.0000**	**5.1148**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9600e-003	1.6400e-003	0.0154	4.0000e-005	4.5800e-003	3.0000e-005	4.6100e-003	1.2200e-003	3.0000e-005	1.2500e-003	0.0000	3.6546	3.6546	1.1000e-004	0.0000	3.6574
Total	**1.9600e-003**	**1.6400e-003**	**0.0154**	**4.0000e-005**	**4.5800e-003**	**3.0000e-005**	**4.6100e-003**	**1.2200e-003**	**3.0000e-005**	**1.2500e-003**	**0.0000**	**3.6546**	**3.6546**	**1.1000e-004**	**0.0000**	**3.6574**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0694	0.2522	0.7085	2.8300e-003	0.3728	1.7300e-003	0.3745	0.0996	1.6000e-003	0.1012	0.0000	258.6372	258.6372	6.0200e-003	0.0000	258.7876
Unmitigated	0.0694	0.2522	0.7085	2.8300e-003	0.3728	1.7300e-003	0.3745	0.0996	1.6000e-003	0.1012	0.0000	258.6372	258.6372	6.0200e-003	0.0000	258.7876

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	578.25	578.25	578.25	1,015,370	1,015,370
General Office Building	0.00	0.00	0.00		
Total	578.25	578.25	578.25	1,015,370	1,015,370

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	14.70	6.60	6.60	0.00	81.00	19.00	66	28	6
General Office Building	14.70	6.60	6.60	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.684203	0.025707	0.165520	0.081475	0.009056	0.003075	0.007203	0.015551	0.001603	0.001080	0.004255	0.000866	0.000408
General Office Building	0.684203	0.025707	0.165520	0.081475	0.009056	0.003075	0.007203	0.015551	0.001603	0.001080	0.004255	0.000866	0.000408

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	69.4987	69.4987	0.0111	2.3000e-003	70.4607
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	69.4987	69.4987	0.0111	2.3000e-003	70.4607
NaturalGas Mitigated	9.8500e-003	0.0895	0.0752	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	97.4557	97.4557	1.8700e-003	1.7900e-003	98.0348
NaturalGas Unmitigated	9.8500e-003	0.0895	0.0752	5.4000e-004		6.8000e-003	6.8000e-003		6.8000e-003	6.8000e-003	0.0000	97.4557	97.4557	1.8700e-003	1.7900e-003	98.0348

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	1.56525e+006	8.4400e-003	0.0767	0.0645	4.6000e-004		5.8300e-003	5.8300e-003		5.8300e-003	5.8300e-003	0.0000	83.5277	83.5277	1.6000e-003	1.5300e-003	84.0241
General Office Building	261000	1.4100e-003	0.0128	0.0108	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	13.9280	13.9280	2.7000e-004	2.6000e-004	14.0107
Total		**9.8500e-003**	**0.0895**	**0.0752**	**5.4000e-004**		**6.8000e-003**	**6.8000e-003**		**6.8000e-003**	**6.8000e-003**	**0.0000**	**97.4557**	**97.4557**	**1.8700e-003**	**1.7900e-003**	**98.0348**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	1.56525e+006	8.4400e-003	0.0767	0.0645	4.6000e-004		5.8300e-003	5.8300e-003		5.8300e-003	5.8300e-003	0.0000	83.5277	83.5277	1.6000e-003	1.5300e-003	84.0241
General Office Building	261000	1.4100e-003	0.0128	0.0108	8.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	13.9280	13.9280	2.7000e-004	2.6000e-004	14.0107
Total		**9.8500e-003**	**0.0895**	**0.0752**	**5.4000e-004**		**6.8000e-003**	**6.8000e-003**		**6.8000e-003**	**6.8000e-003**	**0.0000**	**97.4557**	**97.4557**	**1.8700e-003**	**1.7900e-003**	**98.0348**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	661500	54.4773	8.7000e-003	1.8000e-003	55.2314
General Office Building	182400	15.0214	2.4000e-003	5.0000e-004	15.2293
Total		**69.4987**	**0.0111**	**2.3000e-003**	**70.4607**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	661500	54.4773	8.7000e-003	1.8000e-003	55.2314
General Office Building	182400	15.0214	2.4000e-003	5.0000e-004	15.2293
Total		**69.4987**	**0.0111**	**2.3000e-003**	**70.4607**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4812	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-003	1.7000e-003	0.0000	0.0000	1.8100e-003
Unmitigated	0.4812	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-003	1.7000e-003	0.0000	0.0000	1.8100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3710					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-003	1.7000e-003	0.0000	0.0000	1.8100e-003
Total	**0.4812**	**1.0000e-005**	**8.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.7000e-003**	**1.7000e-003**	**0.0000**	**0.0000**	**1.8100e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1101					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3710					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.0000e-005	1.0000e-005	8.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-003	1.7000e-003	0.0000	0.0000	1.8100e-003
Total	**0.4812**	**1.0000e-005**	**8.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.7000e-003**	**1.7000e-003**	**0.0000**	**0.0000**	**1.8100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	28.5809	1.1713	0.0282	66.2560
Unmitigated	28.5809	1.1713	0.0282	66.2560

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	32.3078 / 2.0622	25.2411	1.0551	0.0254	59.1749
General Office Building	3.55467 / 2.17867	3.3397	0.1162	2.8100e-003	7.0811
Total		**28.5809**	**1.1713**	**0.0282**	**66.2560**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	32.3078 / 2.0622	25.2411	1.0551	0.0254	59.1749
General Office Building	3.55467 / 2.17867	3.3397	0.1162	2.8100e-003	7.0811
Total		**28.5809**	**1.1713**	**0.0282**	**66.2560**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.1938	0.2479	0.0000	10.3900
Unmitigated	4.1938	0.2479	0.0000	10.3900

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	2.06	0.4182	0.0247	0.0000	1.0360
General Office Building	18.6	3.7756	0.2231	0.0000	9.3540
Total		**4.1938**	**0.2478**	**0.0000**	**10.3900**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	2.06	0.4182	0.0247	0.0000	1.0360
General Office Building	18.6	3.7756	0.2231	0.0000	9.3540
Total		**4.1938**	**0.2478**	**0.0000**	**10.3900**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Enterprise Casino Expansion

Yuba County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	20.00	1000sqft	0.46	20,000.00	0
Arena	75.00	1000sqft	2.00	75,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	72
Climate Zone	3			**Operational Year**	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	181.56	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PGE carbon intensity adjusted based on CA RPS.

Land Use - Site Plan

Construction Phase - Project Schedule

Off-road Equipment - PD

Off-road Equipment - Project Description

Off-road Equipment -

Off-road Equipment - PD

Off-road Equipment - PD

Off-road Equipment - PD

Trips and VMT - Based on total 725 workers.

Grading - PD

Architectural Coating - Emission factors adjusted to account for FRAQMD Rule 3.15

Vehicle Trips - Based on traffic study.

Energy Use -

Construction Off-road Equipment Mitigation - Tier 3 Equip

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	100.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	100.00
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	15.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblGrading	AcresOfGrading	6.00	3.00
tblGrading	AcresOfGrading	9.00	4.50
tblGrading	MaterialImported	0.00	4,000.00
tblGrading	MaterialImported	0.00	4,000.00
tblLandUse	LotAcreage	24.11	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	181.56
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	18.00	75.00

tblTripsAndVMT	WorkerTripNumber	20.00	75.00
tblTripsAndVMT	WorkerTripNumber	38.00	425.00
tblTripsAndVMT	WorkerTripNumber	30.00	75.00
tblTripsAndVMT	WorkerTripNumber	8.00	75.00
tblVehicleTrips	ST_TR	10.71	7.71
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	SU_TR	10.71	7.71
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	WD_TR	10.71	7.71
tblVehicleTrips	WD_TR	11.03	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	6.8187	86.2482	58.5626	0.1964	15.1066	1.9389	17.0455	7.3456	1.7875	9.1331	0.0000	20,103.7404	20,103.7404	1.8745	0.0000	20,150.6024
2022	89.3195	37.6154	55.4802	0.1161	5.5260	1.6118	7.1379	1.4676	1.5220	2.9896	0.0000	11,261.4777	11,261.4777	1.5721	0.0000	11,300.7809
Maximum	**89.3195**	**86.2482**	**58.5626**	**0.1964**	**15.1066**	**1.9389**	**17.0455**	**7.3456**	**1.7875**	**9.1331**	**0.0000**	**20,103.7404**	**20,103.7404**	**1.8745**	**0.0000**	**20,150.6024**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.3278	80.2497	63.0327	0.1964	8.1177	1.1251	8.3706	3.6618	1.0492	3.9099	0.0000	20,103.7404	20,103.7404	1.8745	0.0000	20,150.6024
2022	88.7391	35.5318	60.4250	0.1161	5.5260	0.3301	5.8561	1.4676	0.3273	1.7949	0.0000	11,261.4777	11,261.4777	1.5721	0.0000	11,300.7808
Maximum	**88.7391**	**80.2497**	**63.0327**	**0.1964**	**8.1177**	**1.1251**	**8.3706**	**3.6618**	**1.0492**	**3.9099**	**0.0000**	**20,103.7404**	**20,103.7404**	**1.8745**	**0.0000**	**20,150.6024**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**3.19**	**6.52**	**-8.26**	**0.00**	**33.87**	**59.02**	**41.17**	**41.80**	**58.41**	**52.94**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.6371	9.0000e-005	9.6400e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0208	0.0208	5.0000e-005		0.0221
Energy	0.0540	0.4905	0.4121	2.9400e-003		0.0373	0.0373		0.0373	0.0373		588.6382	588.6382	0.0113	0.0108	592.1362
Mobile	0.5085	1.3444	4.2945	0.0169	2.1391	9.4800e-003	2.1485	0.5698	8.8100e-003	0.5786		1,698.7191	1,698.7191	0.0373		1,699.6512
Total	**3.1996**	**1.8351**	**4.7162**	**0.0198**	**2.1391**	**0.0468**	**2.1858**	**0.5698**	**0.0461**	**0.6159**		**2,287.3781**	**2,287.3781**	**0.0486**	**0.0108**	**2,291.8095**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.6371	9.0000e-005	9.6400e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0208	0.0208	5.0000e-005		0.0221
Energy	0.0540	0.4905	0.4121	2.9400e-003		0.0373	0.0373		0.0373	0.0373		588.6382	588.6382	0.0113	0.0108	592.1362
Mobile	0.5085	1.3444	4.2945	0.0169	2.1391	9.4800e-003	2.1485	0.5698	8.8100e-003	0.5786		1,698.7191	1,698.7191	0.0373		1,699.6512
Total	**3.1996**	**1.8351**	**4.7162**	**0.0198**	**2.1391**	**0.0468**	**2.1858**	**0.5698**	**0.0461**	**0.6159**		**2,287.3781**	**2,287.3781**	**0.0486**	**0.0108**	**2,291.8095**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	5/1/2021	5/5/2021	5	3	
2	Grading	Grading	5/6/2021	5/13/2021	5	6	
3	Building Construction	Building Construction	5/14/2021	3/17/2022	5	220	
4	Paving	Paving	3/18/2022	3/31/2022	5	10	
5	Architectural Coating	Architectural Coating	4/1/2022	4/14/2022	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 142,500; Non-Residential Outdoor: 47,500; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Enterprise Casino Expansion - Yuba County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	2	8.00	187	0.41
Site Preparation	Scrapers	2	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	2	8.00	187	0.41
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	4	7.00	97	0.37
Building Construction	Aerial Lifts	8	5.00	63	0.31
Building Construction	Cranes	3	8.00	231	0.29
Building Construction	Forklifts	4	7.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Architectural Coating	Air Compressors	4	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	75.00	0.00	500.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	75.00	0.00	500.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	24	425.00	16.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	75.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	75.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8563	0.0000	1.8563	0.2120	0.0000	0.2120			0.0000			0.0000
Off-Road	3.2565	38.2312	23.4769	0.0517		1.5016	1.5016		1.3814	1.3814		5,009.0540	5,009.0540	1.6200		5,049.5547
Total	**3.2565**	**38.2312**	**23.4769**	**0.0517**	**1.8563**	**1.5016**	**3.3579**	**0.2120**	**1.3814**	**1.5934**		**5,009.0540**	**5,009.0540**	**1.6200**		**5,049.5547**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2575	47.6866	9.7653	0.1353	2.8829	0.2027	3.0856	0.7875	0.1939	0.9814		14,168.3541	14,168.3541	0.2214		14,173.8880
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4761	0.3305	4.1076	9.3100e-003	0.9580	6.0400e-003	0.9640	0.2541	5.5700e-003	0.2596		926.3324	926.3324	0.0331		927.1596
Total	**1.7335**	**48.0170**	**13.8729**	**0.1446**	**3.8409**	**0.2087**	**4.0496**	**1.0415**	**0.1995**	**1.2410**		**15,094.6865**	**15,094.6865**	**0.2545**		**15,101.0477**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8353	0.0000	0.8353	0.0954	0.0000	0.0954			0.0000			0.0000
Off-Road	2.3828	32.2327	27.1889	0.0517		0.9163	0.9163		0.8497	0.8497	0.0000	5,009.0540	5,009.0540	1.6200		5,049.5547
Total	**2.3828**	**32.2327**	**27.1889**	**0.0517**	**0.8353**	**0.9163**	**1.7516**	**0.0954**	**0.8497**	**0.9451**	**0.0000**	**5,009.0540**	**5,009.0540**	**1.6200**		**5,049.5547**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.2575	47.6866	9.7653	0.1353	2.8829	0.2027	3.0856	0.7875	0.1939	0.9814		14,168.3541	14,168.3541	0.2214		14,173.8880
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4761	0.3305	4.1076	9.3100e-003	0.9580	6.0400e-003	0.9640	0.2541	5.5700e-003	0.2596		926.3324	926.3324	0.0331		927.1596
Total	**1.7335**	**48.0170**	**13.8729**	**0.1446**	**3.8409**	**0.2087**	**4.0496**	**1.0415**	**0.1995**	**1.2410**		**15,094.6865**	**15,094.6865**	**0.2545**		**15,101.0477**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					12.7072	0.0000	12.7072	6.6978	0.0000	6.6978			0.0000			0.0000
Off-Road	3.6541	40.4271	19.5208	0.0412		1.8315	1.8315		1.6850	1.6850		3,991.2229	3,991.2229	1.2908		4,023.4939
Total	**3.6541**	**40.4271**	**19.5208**	**0.0412**	**12.7072**	**1.8315**	**14.5387**	**6.6978**	**1.6850**	**8.3828**		**3,991.2229**	**3,991.2229**	**1.2908**		**4,023.4939**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6287	23.8433	4.8827	0.0677	1.4415	0.1014	1.5428	0.3938	0.0970	0.4907		7,084.1771	7,084.1771	0.1107		7,086.9440
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4761	0.3305	4.1076	9.3100e-003	0.9580	6.0400e-003	0.9640	0.2541	5.5700e-003	0.2596		926.3324	926.3324	0.0331		927.1596
Total	**1.1048**	**24.1738**	**8.9903**	**0.0770**	**2.3994**	**0.1074**	**2.5068**	**0.6478**	**0.1025**	**0.7503**		**8,010.5094**	**8,010.5094**	**0.1438**		**8,014.1036**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7182	0.0000	5.7182	3.0140	0.0000	3.0140			0.0000			0.0000
Off-Road	1.0086	20.4301	24.2900	0.0412		0.1455	0.1455		0.1455	0.1455	0.0000	3,991.2229	3,991.2229	1.2908		4,023.4939
Total	**1.0086**	**20.4301**	**24.2900**	**0.0412**	**5.7182**	**0.1455**	**5.8638**	**3.0140**	**0.1455**	**3.1595**	**0.0000**	**3,991.2229**	**3,991.2229**	**1.2908**		**4,023.4939**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.6287	23.8433	4.8827	0.0677	1.4415	0.1014	1.5428	0.3938	0.0970	0.4907		7,084.1771	7,084.1771	0.1107		7,086.9440
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4761	0.3305	4.1076	9.3100e-003	0.9580	6.0400e-003	0.9640	0.2541	5.5700e-003	0.2596		926.3324	926.3324	0.0331		927.1596
Total	**1.1048**	**24.1738**	**8.9903**	**0.0770**	**2.3994**	**0.1074**	**2.5068**	**0.6478**	**0.1025**	**0.7503**		**8,010.5094**	**8,010.5094**	**0.1438**		**8,014.1036**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0634	38.2244	34.8129	0.0612		1.8340	1.8340		1.7319	1.7319		5,778.6260	5,778.6260	1.4093		5,813.8572
Total	**4.0634**	**38.2244**	**34.8129**	**0.0612**		**1.8340**	**1.8340**		**1.7319**	**1.7319**		**5,778.6260**	**5,778.6260**	**1.4093**		**5,813.8572**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0577	1.7378	0.4733	4.0800e-003	0.0975	6.1000e-003	0.1036	0.0280	5.8300e-003	0.0339		425.7411	425.7411	0.0117		426.0325
Worker	2.6977	1.8728	23.2764	0.0528	5.4285	0.0342	5.4628	1.4396	0.0315	1.4711		5,249.2167	5,249.2167	0.1875		5,253.9046
Total	**2.7553**	**3.6106**	**23.7497**	**0.0569**	**5.5260**	**0.0403**	**5.5664**	**1.4676**	**0.0374**	**1.5050**		**5,674.9578**	**5,674.9578**	**0.1992**		**5,679.9371**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5725	32.2349	39.2830	0.0612		0.2919	0.2919		0.2919	0.2919	0.0000	5,778.6260	5,778.6260	1.4093		5,813.8572
Total	**1.5725**	**32.2349**	**39.2830**	**0.0612**		**0.2919**	**0.2919**		**0.2919**	**0.2919**	**0.0000**	**5,778.6260**	**5,778.6260**	**1.4093**		**5,813.8572**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0577	1.7378	0.4733	4.0800e-003	0.0975	6.1000e-003	0.1036	0.0280	5.8300e-003	0.0339		425.7411	425.7411	0.0117		426.0325
Worker	2.6977	1.8728	23.2764	0.0528	5.4285	0.0342	5.4628	1.4396	0.0315	1.4711		5,249.2167	5,249.2167	0.1875		5,253.9046
Total	**2.7553**	**3.6106**	**23.7497**	**0.0569**	**5.5260**	**0.0403**	**5.5664**	**1.4676**	**0.0374**	**1.5050**		**5,674.9578**	**5,674.9578**	**0.1992**		**5,679.9371**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6812	34.3185	34.3382	0.0612		1.5736	1.5736		1.4866	1.4866		5,779.9174	5,779.9174	1.3987		5,814.8851
Total	**3.6812**	**34.3185**	**34.3382**	**0.0612**		**1.5736**	**1.5736**		**1.4866**	**1.4866**		**5,779.9174**	**5,779.9174**	**1.3987**		**5,814.8851**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0520	1.6461	0.4025	4.0500e-003	0.0975	5.3800e-003	0.1029	0.0280	5.1500e-003	0.0332		423.4162	423.4162	0.0109		423.6878
Worker	2.4728	1.6508	20.7396	0.0508	5.4285	0.0329	5.4614	1.4396	0.0303	1.4699		5,058.1441	5,058.1441	0.1626		5,062.2080
Total	**2.5248**	**3.2969**	**21.1420**	**0.0549**	**5.5260**	**0.0382**	**5.5643**	**1.4676**	**0.0354**	**1.5030**		**5,481.5603**	**5,481.5603**	**0.1734**		**5,485.8958**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5725	32.2349	39.2830	0.0612		0.2919	0.2919		0.2919	0.2919	0.0000	5,779.9174	5,779.9174	1.3987		5,814.8851
Total	**1.5725**	**32.2349**	**39.2830**	**0.0612**		**0.2919**	**0.2919**		**0.2919**	**0.2919**	**0.0000**	**5,779.9174**	**5,779.9174**	**1.3987**		**5,814.8851**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0520	1.6461	0.4025	4.0500e-003	0.0975	5.3800e-003	0.1029	0.0280	5.1500e-003	0.0332		423.4162	423.4162	0.0109		423.6878
Worker	2.4728	1.6508	20.7396	0.0508	5.4285	0.0329	5.4614	1.4396	0.0303	1.4699		5,058.1441	5,058.1441	0.1626		5,062.2080
Total	**2.5248**	**3.2969**	**21.1420**	**0.0549**	**5.5260**	**0.0382**	**5.5643**	**1.4676**	**0.0354**	**1.5030**		**5,481.5603**	**5,481.5603**	**0.1734**		**5,485.8958**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8792	18.5638	24.1492	0.0367		0.9570	0.9570		0.8827	0.8827		3,513.6487	3,513.6487	1.1142		3,541.5037
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8792**	**18.5638**	**24.1492**	**0.0367**		**0.9570**	**0.9570**		**0.8827**	**0.8827**		**3,513.6487**	**3,513.6487**	**1.1142**		**3,541.5037**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4364	0.2913	3.6599	8.9700e-003	0.9580	5.8000e-003	0.9638	0.2541	5.3400e-003	0.2594		892.6137	892.6137	0.0287		893.3308
Total	**0.4364**	**0.2913**	**3.6599**	**8.9700e-003**	**0.9580**	**5.8000e-003**	**0.9638**	**0.2541**	**5.3400e-003**	**0.2594**		**892.6137**	**892.6137**	**0.0287**		**893.3308**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8648	18.2328	26.6639	0.0367		0.1643	0.1643		0.1643	0.1643	0.0000	3,513.6487	3,513.6487	1.1142		3,541.5037
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.8648**	**18.2328**	**26.6639**	**0.0367**		**0.1643**	**0.1643**		**0.1643**	**0.1643**	**0.0000**	**3,513.6487**	**3,513.6487**	**1.1142**		**3,541.5037**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4364	0.2913	3.6599	8.9700e-003	0.9580	5.8000e-003	0.9638	0.2541	5.3400e-003	0.2594		892.6137	892.6137	0.0287		893.3308
Total	**0.4364**	**0.2913**	**3.6599**	**8.9700e-003**	**0.9580**	**5.8000e-003**	**0.9638**	**0.2541**	**5.3400e-003**	**0.2594**		**892.6137**	**892.6137**	**0.0287**		**893.3308**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	88.0650					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.8182	5.6339	7.2544	0.0119		0.3269	0.3269		0.3269	0.3269		1,125.7922	1,125.7922	0.0733		1,127.6246
Total	**88.8832**	**5.6339**	**7.2544**	**0.0119**		**0.3269**	**0.3269**		**0.3269**	**0.3269**		**1,125.7922**	**1,125.7922**	**0.0733**		**1,127.6246**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4364	0.2913	3.6599	8.9700e-003	0.9580	5.8000e-003	0.9638	0.2541	5.3400e-003	0.2594		892.6137	892.6137	0.0287		893.3308
Total	**0.4364**	**0.2913**	**3.6599**	**8.9700e-003**	**0.9580**	**5.8000e-003**	**0.9638**	**0.2541**	**5.3400e-003**	**0.2594**		**892.6137**	**892.6137**	**0.0287**		**893.3308**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	88.0650					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2377	5.4279	7.3297	0.0119		0.0571	0.0571		0.0571	0.0571	0.0000	1,125.7922	1,125.7922	0.0733		1,127.6246
Total	**88.3027**	**5.4279**	**7.3297**	**0.0119**		**0.0571**	**0.0571**		**0.0571**	**0.0571**	**0.0000**	**1,125.7922**	**1,125.7922**	**0.0733**		**1,127.6246**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4364	0.2913	3.6599	8.9700e-003	0.9580	5.8000e-003	0.9638	0.2541	5.3400e-003	0.2594		892.6137	892.6137	0.0287		893.3308
Total	**0.4364**	**0.2913**	**3.6599**	**8.9700e-003**	**0.9580**	**5.8000e-003**	**0.9638**	**0.2541**	**5.3400e-003**	**0.2594**		**892.6137**	**892.6137**	**0.0287**		**893.3308**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.5085	1.3444	4.2945	0.0169	2.1391	9.4800e-003	2.1485	0.5698	8.8100e-003	0.5786		1,698.7191	1,698.7191	0.0373		1,699.6512
Unmitigated	0.5085	1.3444	4.2945	0.0169	2.1391	9.4800e-003	2.1485	0.5698	8.8100e-003	0.5786		1,698.7191	1,698.7191	0.0373		1,699.6512

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	578.25	578.25	578.25	1,015,370	1,015,370
General Office Building	0.00	0.00	0.00		
Total	578.25	578.25	578.25	1,015,370	1,015,370

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	14.70	6.60	6.60	0.00	81.00	19.00	66	28	6
General Office Building	14.70	6.60	6.60	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.684203	0.025707	0.165520	0.081475	0.009056	0.003075	0.007203	0.015551	0.001603	0.001080	0.004255	0.000866	0.000408
General Office Building	0.684203	0.025707	0.165520	0.081475	0.009056	0.003075	0.007203	0.015551	0.001603	0.001080	0.004255	0.000866	0.000408

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0540	0.4905	0.4121	2.9400e-003		0.0373	0.0373		0.0373	0.0373		588.6382	588.6382	0.0113	0.0108	592.1362
NaturalGas Unmitigated	0.0540	0.4905	0.4121	2.9400e-003		0.0373	0.0373		0.0373	0.0373		588.6382	588.6382	0.0113	0.0108	592.1362

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	4288.36	0.0463	0.4204	0.3532	2.5200e-003		0.0320	0.0320		0.0320	0.0320		504.5125	504.5125	9.6700e-003	9.2500e-003	507.5106
General Office Building	715.068	7.7100e-003	0.0701	0.0589	4.2000e-004		5.3300e-003	5.3300e-003		5.3300e-003	5.3300e-003		84.1257	84.1257	1.6100e-003	1.5400e-003	84.6256
Total		**0.0540**	**0.4905**	**0.4121**	**2.9400e-003**		**0.0373**	**0.0373**		**0.0373**	**0.0373**		**588.6382**	**588.6382**	**0.0113**	**0.0108**	**592.1362**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Arena	4.28836	0.0463	0.4204	0.3532	2.5200e-003		0.0320	0.0320		0.0320	0.0320		504.5125	504.5125	9.6700e-003	9.2500e-003	507.5106
General Office Building	0.715068	7.7100e-003	0.0701	0.0589	4.2000e-004		5.3300e-003	5.3300e-003		5.3300e-003	5.3300e-003		84.1257	84.1257	1.6100e-003	1.5400e-003	84.6256
Total		**0.0540**	**0.4905**	**0.4121**	**2.9400e-003**		**0.0373**	**0.0373**		**0.0373**	**0.0373**		**588.6382**	**588.6382**	**0.0113**	**0.0108**	**592.1362**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.6371	9.0000e-005	9.6400e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0208	0.0208	5.0000e-005		0.0221
Unmitigated	2.6371	9.0000e-005	9.6400e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0208	0.0208	5.0000e-005		0.0221

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6032					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0330					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.8000e-004	9.0000e-005	9.6400e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0208	0.0208	5.0000e-005		0.0221
Total	**2.6371**	**9.0000e-005**	**9.6400e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0208**	**0.0208**	**5.0000e-005**		**0.0221**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6032					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0330					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.8000e-004	9.0000e-005	9.6400e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0208	0.0208	5.0000e-005		0.0221
Total	**2.6371**	**9.0000e-005**	**9.6400e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0208**	**0.0208**	**5.0000e-005**		**0.0221**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX G

SPECIAL-STATUS SPECIES LISTS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2021-SLI-0700
Event Code: 08ESMF00-2021-E-02044
Project Name: Hardrock Live

January 11, 2021

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

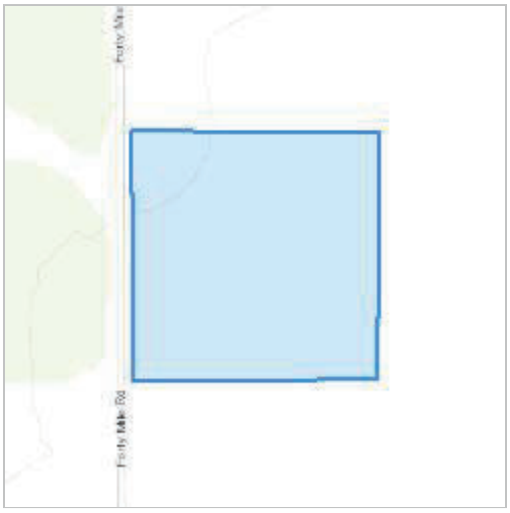
This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2021-SLI-0700
Event Code: 08ESMF00-2021-E-02044
Project Name: Hardrock Live
Project Type: Guidance
Project Description: Expansion of existing facility
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.0506186,-121.51254957453057,14z



Counties: Yuba County, California

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/7850

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio*	Endangered

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/8246

Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp *Lepidurus packardi*	Endangered

There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/2246

Flowering Plants

NAME	STATUS
Hartweg's Golden Sunburst *Pseudobahia bahiifolia*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1704

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Critical Habitat for Threatened & Endangered Species [USFWS]

Final Linear Features

Final Polygon Features

Proposed Linear Features

Proposed Polygon Features



A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

U.S. Fish and Wildlife Service | The data found in this file were developed by the U.S. Fish & Wildlife Service field offices. For more information please refer to the species level metadata found with the individual shapefiles. The ECOS Joint Development Team is responsible for creating and serving this conglomerate file. No data alterations are made by ECOS. | USDA FSA, Maxar

U.S. Fish and Wildlife Service

National Wetlands Inventory

Hardrock Live Expansion



January 25, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Olivehurst (3912115))
 AND Taxonomic Group IS (Dune OR Scrub OR Herbaceous OR Marsh OR Riparian OR Woodland OR Forest OR Alpine OR Inland Waters OR Marine OR Estuarine OR Riverine OR Palustrine OR Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects OR Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)
 AND (Federal Listing Status IS (Endangered OR Threatened OR Proposed Endangered OR Proposed Threatened) OR State Listing Status IS (Endangered OR Threatened OR Rare))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
ABNKC19070	***Buteo swainsoni*** Swainson's hawk	None	Threatened	G5	S3	
ABNRB02022	***Coccyzus americanus occidentalis*** western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABPAU08010	***Riparia riparia*** bank swallow	None	Threatened	G5	S2	
ABPBXB0020	***Agelaius tricolor*** tricolored blackbird	None	Threatened	G2G3	S1S2	SSC
AFCHA0205A	***Oncorhynchus tshawytscha pop. 6*** chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	G5	S2	
AFCHA0209K	***Oncorhynchus mykiss irideus pop. 11*** steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	
ICBRA03030	***Branchinecta lynchi*** vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA10010	***Lepidurus packardi*** vernal pool tadpole shrimp	Endangered	None	G4	S3S4	
IICOL48011	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	Threatened	None	G3T2	S3	
PDAST7P010	***Pseudobahia bahiifolia*** Hartweg's golden sunburst	Endangered	Endangered	G1	S1	1B.1

Record Count: 10

APPENDIX H

EDR RADIUS MAP REPORT

Enterprise Casino Expansion
3317 Forty Mile Rd
Wheatland, CA 95692

Inquiry Number: 6324279.2s
January 08, 2021

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	9
Orphan Summary	14
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-9
Physical Setting Source Map Findings	A-11
Physical Setting Source Records Searched	PSGR-1

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

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

3317 FORTY MILE RD
WHEATLAND, CA 95692

COORDINATES

Latitude (North):	39.0507370 - 39° 3' 2.65''
Longitude (West):	121.5126160 - 121° 30' 45.41''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	628709.5
UTM Y (Meters):	4323251.5
Elevation:	63 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5603334 OLIVEHURST, CA
Version Date:	2012
East Map:	5603368 WHEATLAND, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140725
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
3317 FORTY MILE RD
WHEATLAND, CA 95692

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	ENTERPRISE RANCHERIA	3317 FORTY MILE ROAD	FINDS, ECHO		TP
A2	HARD ROCK HOTEL & CA	3317 FORTY MILE	CERS		TP
A3	PARKING PROJECT 2019	3317 FORTY MILE ROAD	NPDES, CIWQS, CERS		TP
A4	ENTERPRISE LAY DOWN	3317 FOURTY MILE ROA	NPDES		TP
5	VERIZON WIRELESS OLI	3359 FORTY MILE RD	CUPA Listings	Higher	1181, 0.224, SE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 9 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
ENTERPRISE RANCHERIA 3317 FORTY MILE ROAD WHEATLAND, CA 95963	FINDS Registry ID:: 110070256011 ECHO Registry ID: 110070256011	N/A
HARD ROCK HOTEL & CA 3317 FORTY MILE WHEATLAND, CA 95692	CERS	N/A
PARKING PROJECT 2019 3317 FORTY MILE ROAD WHEATLAND, CA 95962	NPDES Facility Status: Terminated CIWQS CERS	N/A
ENTERPRISE LAY DOWN 3317 FOURTY MILE ROA WHEATLAND, CA 95962	NPDES	N/A

DATABASES WITH NO MAPPED SITES

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

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

EXECUTIVE SUMMARY

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG---------- RCRA - Large Quantity Generators
RCRA-SQG---------- RCRA - Small Quantity Generators
RCRA-VSQG---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS---------- Land Use Control Information System
US ENG CONTROLS---------- Engineering Controls Sites List
US INST CONTROLS---------- Institutional Controls Sites List

Federal ERNS list

ERNS---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE---------- State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR---------- EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST---------- Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST---------- Leaking Underground Storage Tanks on Indian Land
CPS-SLIC---------- Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST---------- Underground Storage Tank Listing
UST---------- Active UST Facilities
AST---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP---------- Voluntary Cleanup Priority Listing

VCP ---------- Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---------- Waste Management Unit Database
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---------- Open Dump Inventory
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register
HIST Cal-Sites ---------- Historical Calsites Database
SCH ---------- School Property Evaluation Program
CDL ---------- Clandestine Drug Labs
Toxic Pits ---------- Toxic Pits Cleanup Act Sites
CERS HAZ WASTE ---------- CERS HAZ WASTE
US CDL ---------- National Clandestine Laboratory Register
PFAS ---------- PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST ---------- SWEEPS UST Listing
HIST UST ---------- Hazardous Substance Storage Container Database
CERS TANKS ---------- California Environmental Reporting System (CERS) Tanks
CA FID UST ---------- Facility Inventory Database

Local Land Records

LIENS ---------- Environmental Liens Listing
LIENS 2 ---------- CERCLA Lien Information
DEED ---------- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System
CHMIRS ---------- California Hazardous Material Incident Report System
LDS ---------- Land Disposal Sites Listing
MCS ---------- Military Cleanup Sites Listing
SPILLS 90 ---------- SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ---------- RCRA - Non Generators / No Longer Regulated

EXECUTIVE SUMMARY

FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
UXO	Unexploded Ordnance Sites
DOCKET HWC	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HAZNET	Facility and Manifest Data
ICE	ICE
HIST CORTESE	Hazardous Waste & Substance Site List
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System

WIP ---- Well Investigation Program Case List
MILITARY PRIV SITES ---- MILITARY PRIV SITES (GEOTRACKER)
PROJECT ---- PROJECT (GEOTRACKER)
WDR ---- Waste Discharge Requirements Listing
NON-CASE INFO ---- NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS ---- OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS ---- PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT ---- SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ ---- Well Stimulation Project (GEOTRACKER)
MINES MRDS ---- Mineral Resources Data System
HWTS ---- Hazardous Waste Tracking System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ---- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner ---- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

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

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there is 1 CUPA Listings

site within approximately 0.25 miles of the target property.

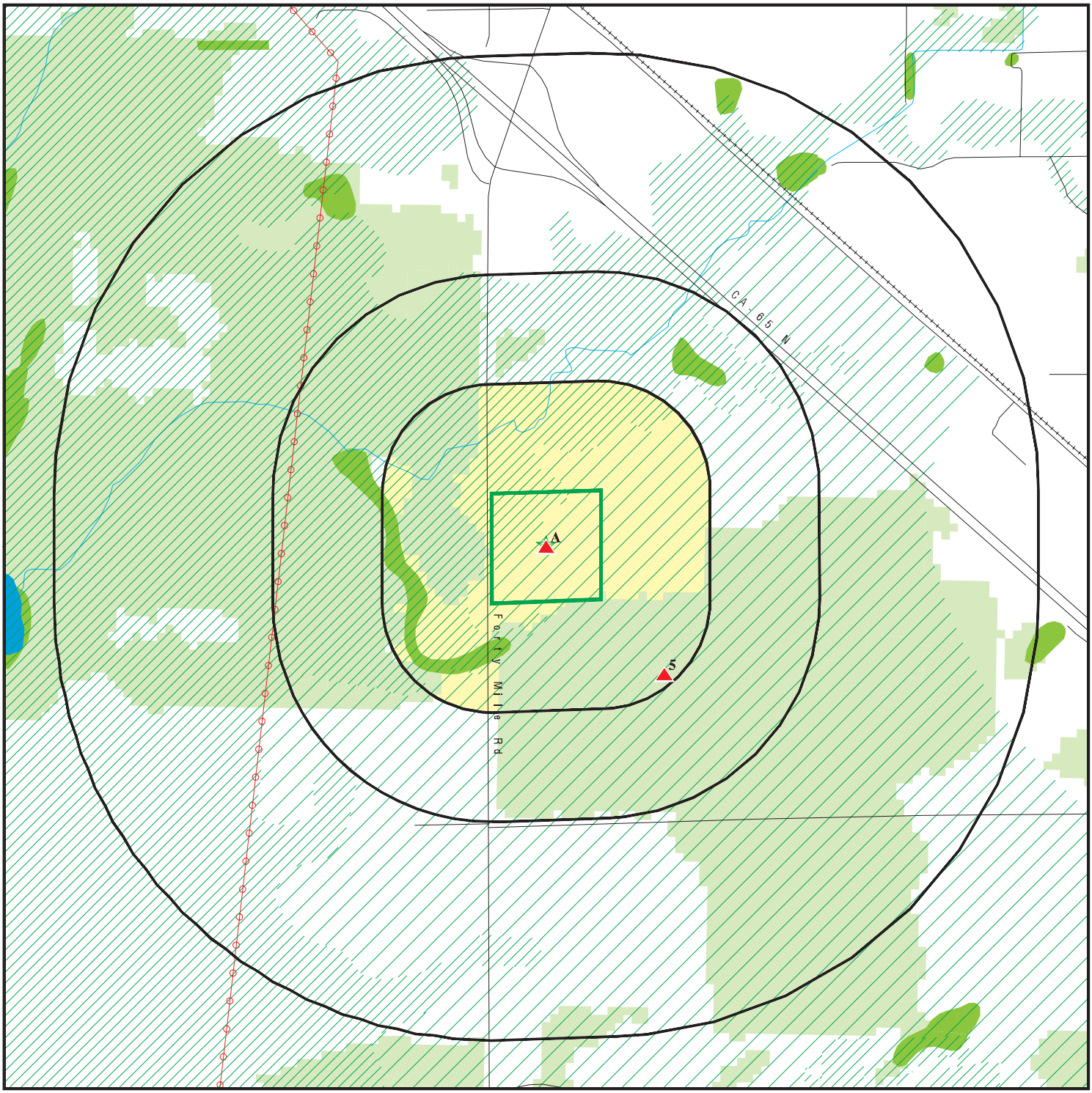
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
VERIZON WIRELESS OLI	3359 FORTY MILE RD	SE 1/8 - 1/4 (0.224 mi.)	5	13

Database: CUPA YUBA, Date of Government Version: 08/06/2020
Facility Id: FA0001467

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 6324279.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

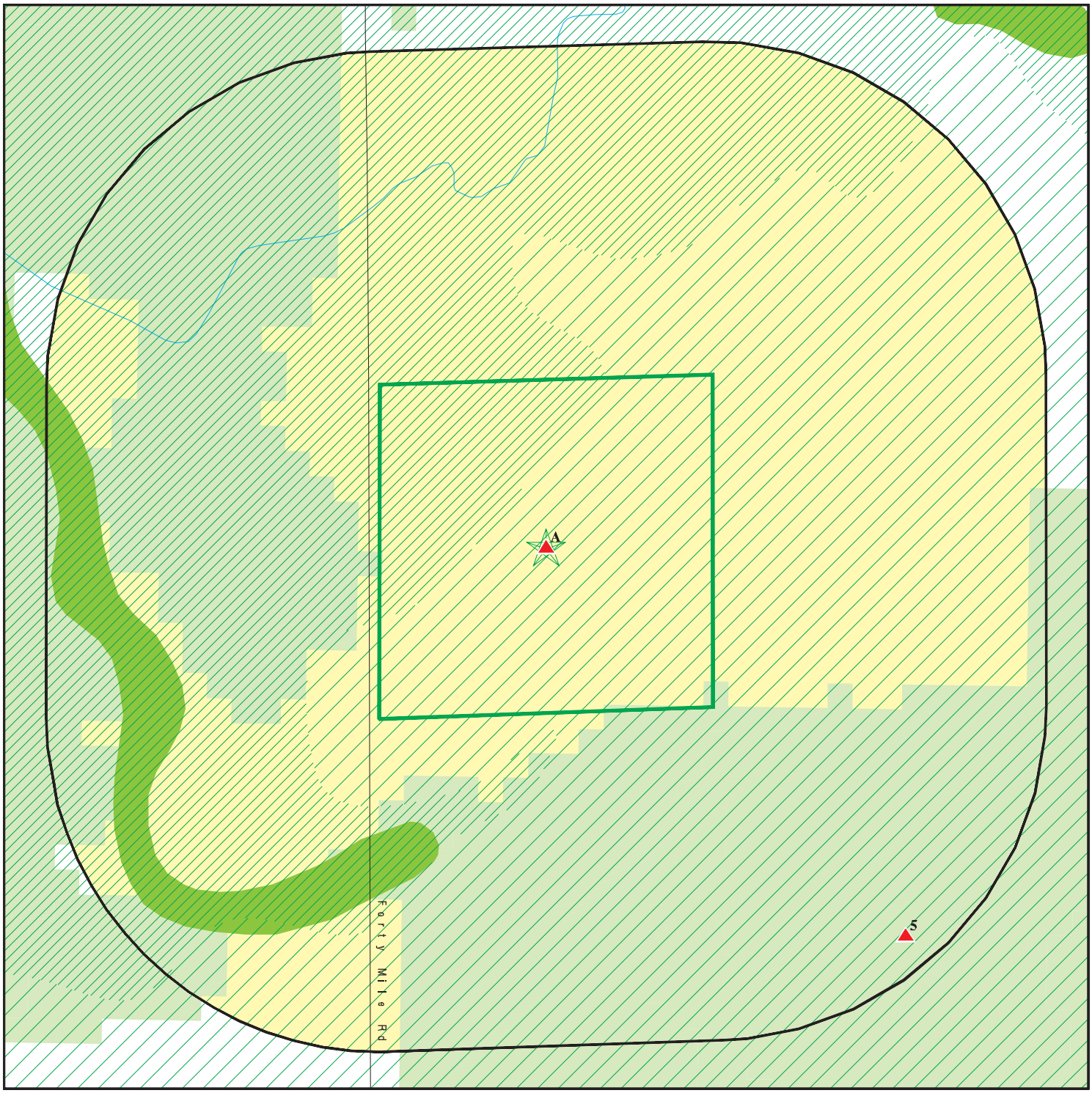
N

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

SITE NAME:	Enterprise Casino Expansion	CLIENT:	ANALYTICAL ENVIRONMENTAL SERVICES
ADDRESS:	3317 Forty Mile Rd Wheatland CA 95692	CONTACT:	Kristen Miner
LAT/LONG:	39.050737 / 121.512616	INQUIRY #:	6324279.2s
		DATE:	January 08, 2021 8:40 am

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DETAIL MAP - 6324279.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

N

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

SITE NAME:	Enterprise Casino Expansion	CLIENT:	ANALYTICAL ENVIRONMENTAL SERVICES
ADDRESS:	3317 Forty Mile Rd Wheatland CA 95692	CONTACT:	Kristen Miner
LAT/LONG:	39.050737 / 121.512616	INQUIRY #:	6324279.2s
		DATE:	January 08, 2021 8:41 am

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001	1	0	NR	NR	NR	NR	1
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001	1	0	NR	NR	NR	NR	1
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	1	NR	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001	2	0	NR	NR	NR	NR	2
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001	1	0	NR	NR	NR	NR	1
CERS	0.001	2	0	NR	NR	NR	NR	2
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		7	0	1	0	0	0	8

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **ENTERPRISE RANCHERIA** **FINDS** **1024149109**
Target **3317 FORTY MILE ROAD** **ECHO** **N/A**
Property **WHEATLAND, CA 95963**

Site 1 of 4 in cluster A

Actual: **63 ft.**

FINDS:
Registry ID: 110070256011

Click Here:

Environmental Interest/Information System:
US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1024149109
Registry ID: 110070256011
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110070256011
Name: ENTERPRISE RANCHERIA
Address: 3317 FORTY MILE ROAD
City,State,Zip: WHEATLAND, CA 95963

A2 **HARD ROCK HOTEL & CASINO SACRAMENTO AT FIRE MOUNTA** **CERS** **S125742377**
Target **3317 FORTY MILE** **N/A**
Property **WHEATLAND, CA 95692**

Site 2 of 4 in cluster A

Actual: **63 ft.**

CERS:
Name: HARD ROCK HOTEL & CASINO SACRAMENTO AT FIRE MOUNTAIN WWTF
Address: 3317 FORTY MILE
City,State,Zip: WHEATLAND, CA 95692
Site ID: 560067
CERS ID: 862416
CERS Description: Forestry & Silviculture

Affiliation:
Affiliation Type Desc: Owner and Operator
Entity Name: Enterprise Rancheria Estom Yumeka Maidu Tribe
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Name: HARD ROCK HOTEL & CASINO SACRAMENTO AT FIRE MOUNTAIN WWTF
Address: 3317 FORTY MILE
City,State,Zip: WHEATLAND, CA 95692

HARD ROCK HOTEL & CASINO SACRAMENTO AT FIRE MOUNTAIN WWTF (Continued) **S125742377**

Site ID: 560067
CERS ID: 862416
CERS Description: Waste Discharge Requirements

Affiliation:
Affiliation Type Desc: Owner and Operator
Entity Name: Enterprise Rancheria Estom Yumeka Maidu Tribe
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

A3 **PARKING PROJECT 2019** **NPDES** **S125343743**
Target **3317 FORTY MILE ROAD** **CIWQS** **N/A**
Property **WHEATLAND, CA 95962** **CERS**

Site 3 of 4 in cluster A

Actual:
63 ft.

NPDES:
Name: PARKING PROJECT 2019
Address: 3317 FORTY MILE ROAD
City,State,Zip: WHEATLAND, CA 95962
Facility Status: Terminated
NPDES Number: CAS000002
Region: 5S
Agency Number: 0
Regulatory Measure ID: 512125
Place ID: Not reported
Order Number: 2009-0009-DWQ
WDID: 5S58C387907
Regulatory Measure Type: Enrollee
Program Type: Construction
Adoption Date Of Regulatory Measure: Not reported
Effective Date Of Regulatory Measure: 08/27/2019
Termination Date Of Regulatory Measure: 06/10/2020
Expiration Date Of Regulatory Measure: Not reported
Discharge Address: 201 D Street
Discharge Name: Yuba County Entertainment LLC
Discharge City: Marysville
Discharge State: California
Discharge Zip: 96901
Status: Not reported
Status Date: Not reported
Operator Name: Not reported
Operator Address: Not reported
Operator City: Not reported
Operator State: Not reported
Operator Zip: Not reported

Name: PARKING PROJECT 2019
Address: 3317 FORTY MILE ROAD
City,State,Zip: WHEATLAND, CA 95962
Facility Status: Not reported
NPDES Number: Not reported

PARKING PROJECT 2019 (Continued) **S125343743**

Region:	Not reported
Agency Number:	Not reported
Regulatory Measure ID:	Not reported
Place ID:	Not reported
Order Number:	Not reported
WDID:	5S58C387907
Regulatory Measure Type:	Construction
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Discharge Address:	Not reported
Discharge Name:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
Status:	Terminated
Status Date:	07/10/2020
Operator Name:	Yuba County Entertainment LLC
Operator Address:	201 D Street
Operator City:	Marysville
Operator State:	California
Operator Zip:	96901

CIWQS:

Name:	PARKING PROJECT 2019
Address:	3317 FORTY MILE ROAD
City,State,Zip:	WHEATLAND, CA 95962
Agency:	Yuba County Entertainment LLC
Agency Address:	201 D Street Suite D, Marysville, CA 96901
Place/Project Type:	Construction - Other: Parking Lot
SIC/NAICS:	Not reported
Region:	5S
Program:	CONSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water construction
Order Number:	2009-0009-DWQ
WDID:	5S58C387907
NPDES Number:	CAS000002
Adoption Date:	Not reported
Effective Date:	08/27/2019
Termination Date:	06/10/2020
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	39.053319
Longitude:	-121.511863

CERS:

Name:	PARKING PROJECT 2019
Address:	3317 FORTY MILE ROAD

PARKING PROJECT 2019 (Continued) **S125343743**

City,State,Zip: WHEATLAND, CA 95962
Site ID: 555992
CERS ID: 875236
CERS Description: Construction Storm Water

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-13-2019
Violations Found: No
Eval Type: Industrial Storm Water Compliance Evaluation
Eval Notes: Central Valley Regional Water Quality Control Board staff (Board staff) conducted a construction stormwater inspection on 13 September 2019. Board staff observed that the entire project was open. Perimeter sediment controls were not deployed throughout the project. File review showed that the uploaded PRDs were incomplete and that the project is being managed under the wrong risk level. Corrections to all of the deficiencies were requested by 4 October 2019. See included email to Discharger and photo log of inspection.
Eval Division: Water Boards
Eval Program: CONSTW
Eval Source: SMARTS

Affiliation:
Affiliation Type Desc: Owner/Operator
Entity Name: Yuba County Entertainment LLC
Entity Title: Operator
Affiliation Address: 201 D StreetSuite D
Affiliation City: Marysville
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 96901
Affiliation Phone: Not reported

A4 **ENTERPRISE LAY DOWN YARD** **NPDES** **S122350105**
Target **3317 FOURTY MILE ROAD** **N/A**
Property **WHEATLAND, CA 95962**

Site 4 of 4 in cluster A

Actual:
63 ft.

NPDES:
Name: ENTERPRISE LAY DOWN YARD
Address: 3317 FOURTY MILE ROAD
City,State,Zip: WHEATLAND, CA 95962
Facility Status: Not reported
NPDES Number: Not reported
Region: Not reported
Agency Number: Not reported
Regulatory Measure ID: Not reported
Place ID: Not reported
Order Number: Not reported
WDID: 5S58W003710
Regulatory Measure Type: Construction
Program Type: Not reported
Adoption Date Of Regulatory Measure: Not reported
Effective Date Of Regulatory Measure: Not reported
Termination Date Of Regulatory Measure: Not reported
Expiration Date Of Regulatory Measure: Not reported

ENTERPRISE LAY DOWN YARD (Continued) **S122350105**

Discharge Address:	Not reported
Discharge Name:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
Status:	Expired
Status Date:	08/31/2018
Operator Name:	Yuba County Entertainment LLC
Operator Address:	201 D Street
Operator City:	Marysville
Operator State:	California
Operator Zip:	96901

5
SE
1/8-1/4
0.224 mi.
1181 ft.

VERIZON WIRELESS OLIVEHURST **CUPA Listings** **S118421494**
3359 FORTY MILE RD **N/A**
MARYSVILLE, CA 95901

Relative:
Higher

Actual:
67 ft.

CUPA YUBA:

Name:	VERIZON WIRELESS OLIVEHURST
Address:	3359 FORTY MILE RD
City,State,Zip:	MARYSVILLE, CA 95901
Facility Id:	FA0001467
Contact Name:	Armand Delgado
Local Site ID:	HM0517
Record ID:	PR0001622
Program/Element Code:	4201
Latitude:	Not reported
Longitude:	Not reported
Status:	Active
CERS ID:	10144577

Count: 0 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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

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

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

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

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: N/A
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

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

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: N/A
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

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

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

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

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

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: N/A
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 12/23/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/06/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/11/2020
Number of Days to Update: 82

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

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

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

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

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

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

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/15/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 7

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 07/27/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 07/27/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

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

Date of Government Version: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/10/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

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

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

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

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

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

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

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

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

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

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

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

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

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

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

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

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

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

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

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

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

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

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/15/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

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

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

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

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

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

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

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

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

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

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

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

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 07/21/2020
Date Data Arrived at EDR: 09/03/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 83
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 09/03/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/03/2020
Number of Days to Update: 86

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Semi-Annually

MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/03/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/29/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 85

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/26/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 78

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 12/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

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

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 07/27/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/21/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/11/2020
Number of Days to Update: 80

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/14/2020
Date Data Arrived at EDR: 09/15/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/11/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

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

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

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: No Update Planned

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

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 05/28/2020
Date Data Arrived at EDR: 05/29/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 75

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

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

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

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

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 10/30/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

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

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 07/27/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 73

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

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

Date of Government Version: 06/30/2019
Date Data Arrived at EDR: 05/28/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

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

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

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/07/2021
Number of Days to Update: 80

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/18/2020
Date Data Arrived at EDR: 03/19/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

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

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

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 05/20/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/06/2020
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

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

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

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

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 08/03/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 78

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/07/2021
Number of Days to Update: 80

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Quarterly

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

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

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

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/26/2020
Date Data Arrived at EDR: 08/28/2020
Date Made Active in Reports: 11/17/2020
Number of Days to Update: 81

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

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

Date of Government Version: 08/31/2020
Date Data Arrived at EDR: 08/31/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 81
Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

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

Date of Government Version: 09/20/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 83
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

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

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/07/2021
Number of Days to Update: 80
Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/14/2020
Date Data Arrived at EDR: 12/17/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

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

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/21/2020
Number of Days to Update: 69

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

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

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/07/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/09/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/21/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/02/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/06/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

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

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

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

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

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

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Annually

ROD: Records Of Decision

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

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 07/24/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 10/21/2020
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/14/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

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

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

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 04/27/2020
Date Data Arrived at EDR: 05/06/2020
Date Made Active in Reports: 06/09/2020
Number of Days to Update: 34

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

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

Date of Government Version: 10/09/2019
Date Data Arrived at EDR: 10/11/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 70

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

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

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/10/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 59

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/12/2020
Next Scheduled EDR Contact: 01/31/2021
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 12/04/2019
Date Made Active in Reports: 01/15/2020
Number of Days to Update: 42
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 11/30/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/06/2021
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 09/24/2020
Next Scheduled EDR Contact: 01/11/2021
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/27/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

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

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 10/08/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 88

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

BRS: Biennial Reporting System

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

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/23/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

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

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/06/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/06/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

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

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/20/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 10/28/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 12/02/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 09/10/2020
Date Data Arrived at EDR: 09/15/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 66

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 11/24/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

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

Date of Government Version: 08/04/2020
Date Data Arrived at EDR: 08/25/2020
Date Made Active in Reports: 11/18/2020
Number of Days to Update: 85

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/16/2020
Date Data Arrived at EDR: 09/17/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 84

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/10/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

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

Date of Government Version: 09/04/2020
Date Data Arrived at EDR: 09/15/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 66

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 10/03/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 90

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/06/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77
Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/08/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71
Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/17/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/17/2020
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 10/21/2020
Number of Days to Update: 65
Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Quarterly

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

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6
Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/22/2020
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 09/04/2020
Number of Days to Update: 74
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/17/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64
Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 08/25/2020
Date Data Arrived at EDR: 08/26/2020
Date Made Active in Reports: 11/13/2020
Number of Days to Update: 79

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 08/19/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 09/04/2020
Number of Days to Update: 14

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

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

Date of Government Version: 08/06/2020
Date Data Arrived at EDR: 08/28/2020
Date Made Active in Reports: 11/17/2020
Number of Days to Update: 81

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 06/16/2020
Date Made Active in Reports: 08/28/2020
Number of Days to Update: 73

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 10/16/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/07/2021
Number of Days to Update: 80

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 10/13/2020
Date Data Arrived at EDR: 10/14/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/05/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 79

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/04/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/05/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/17/2020
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/17/2020
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/05/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/05/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 08/31/2020
Date Data Arrived at EDR: 08/31/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 81
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/10/2020
Date Made Active in Reports: 10/29/2020
Number of Days to Update: 80
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/09/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 08/31/2020
Date Data Arrived at EDR: 08/31/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 81
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 12/10/2020
Number of Days to Update: 1
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/07/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 11/19/2019
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 62
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/09/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Varies

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

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/13/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 08/31/2020
Date Data Arrived at EDR: 08/31/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 81

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 10/19/2020
Date Data Arrived at EDR: 10/19/2020
Date Made Active in Reports: 01/07/2021
Number of Days to Update: 80

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 09/08/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 11/30/2020
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/04/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Varies

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55
Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120
Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29
Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 11/25/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 10/13/2020
Date Data Arrived at EDR: 10/14/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 20

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

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

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

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

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

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

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

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

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

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

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

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

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 78

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 05/18/2020
Date Data Arrived at EDR: 05/19/2020
Date Made Active in Reports: 06/01/2020
Number of Days to Update: 13

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 12/15/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 12/24/2020
Number of Days to Update: 8

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 07/16/2020
Date Data Arrived at EDR: 07/22/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 78

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 06/08/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 70

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/13/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 70

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

FRESNO COUNTY:

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

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 77

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 12/22/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/13/2020
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 10/14/2020
Date Data Arrived at EDR: 10/15/2020
Date Made Active in Reports: 01/05/2021
Number of Days to Update: 82

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 10/13/2020
Number of Days to Update: 75

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 10/14/2020
Number of Days to Update: 76

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/11/2020
Date Data Arrived at EDR: 05/12/2020
Date Made Active in Reports: 07/27/2020
Number of Days to Update: 76

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 08/13/2020
Date Data Arrived at EDR: 08/13/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 71

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: No Update Planned

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

Date of Government Version: 07/06/2020
Date Data Arrived at EDR: 07/10/2020
Date Made Active in Reports: 09/28/2020
Number of Days to Update: 80

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 01/04/2021
Next Scheduled EDR Contact: 04/19/2021
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/09/2020
Date Data Arrived at EDR: 10/09/2020
Date Made Active in Reports: 12/29/2020
Number of Days to Update: 81

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/09/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 08/17/2020
Date Made Active in Reports: 11/05/2020
Number of Days to Update: 80

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58
Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills
This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42
Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 10/12/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory
A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58
Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory
A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58
Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/18/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/20/2020
Date Data Arrived at EDR: 10/09/2020
Date Made Active in Reports: 12/29/2020
Number of Days to Update: 81
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/09/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 09/11/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 77

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/05/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 12/21/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/28/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 1

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 08/20/2020
Date Data Arrived at EDR: 08/24/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 77

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 11/15/2020
Next Scheduled EDR Contact: 03/08/3021
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 07/13/2020
Date Data Arrived at EDR: 07/15/2020
Date Made Active in Reports: 07/31/2020
Number of Days to Update: 16

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 12/21/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/29/2020
Date Data Arrived at EDR: 07/30/2020
Date Made Active in Reports: 10/13/2020
Number of Days to Update: 75

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/20/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 06/10/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 10/19/2020
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/02/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 07/02/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 79

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/02/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 07/01/2020
Date Data Arrived at EDR: 08/03/2020
Date Made Active in Reports: 10/19/2020
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/03/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 11/24/2020
Date Data Arrived at EDR: 11/24/2020
Date Made Active in Reports: 11/25/2020
Number of Days to Update: 1

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 10/06/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 10/06/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 11/03/2020
Number of Days to Update: 27
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 02/18/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/15/2020
Number of Days to Update: 76
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 02/24/2020
Date Data Arrived at EDR: 03/31/2020
Date Made Active in Reports: 06/17/2020
Number of Days to Update: 78
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/30/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 08/04/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 78
Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/04/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 82
Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

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

Date of Government Version: 08/31/2020
Date Data Arrived at EDR: 08/31/2020
Date Made Active in Reports: 11/23/2020
Number of Days to Update: 84

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 08/03/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/22/2020
Number of Days to Update: 78

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 08/03/2020
Date Data Arrived at EDR: 08/05/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 82

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 12/09/2020
Next Scheduled EDR Contact: 03/29/2021
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 07/27/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 75

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/11/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/01/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 08/20/2020
Date Data Arrived at EDR: 08/20/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 81

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

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

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 11/16/2020
Next Scheduled EDR Contact: 03/08/2021
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 07/30/2020
Date Data Arrived at EDR: 07/31/2020
Date Made Active in Reports: 10/16/2020
Number of Days to Update: 77

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 08/25/2020
Date Data Arrived at EDR: 08/26/2020
Date Made Active in Reports: 09/16/2020
Number of Days to Update: 21

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/03/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 12/15/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 7

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 09/18/2020
Date Data Arrived at EDR: 09/22/2020
Date Made Active in Reports: 12/14/2020
Number of Days to Update: 83

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/15/2020
Next Scheduled EDR Contact: 04/05/2021
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 10/06/2020
Date Made Active in Reports: 12/22/2020
Number of Days to Update: 77

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/02/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 08/25/2020
Date Data Arrived at EDR: 08/26/2020
Date Made Active in Reports: 11/17/2020
Number of Days to Update: 83

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 11/23/2020
Next Scheduled EDR Contact: 03/15/2021
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 08/11/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 75

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 10/14/2020
Date Data Arrived at EDR: 10/15/2020
Date Made Active in Reports: 01/05/2021
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 08/06/2020
Date Data Arrived at EDR: 08/06/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 81

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 10/28/2020
Next Scheduled EDR Contact: 02/15/2021
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/13/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Varies

VENTURA COUNTY:

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

Date of Government Version: 07/10/2020
Date Data Arrived at EDR: 07/22/2020
Date Made Active in Reports: 10/08/2020
Number of Days to Update: 78
Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Quarterly

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

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/21/2020
Next Scheduled EDR Contact: 04/12/2021
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/05/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 07/10/2020
Date Data Arrived at EDR: 07/22/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 77
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/19/2020
Next Scheduled EDR Contact: 02/01/2021
Data Release Frequency: Quarterly

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

Date of Government Version: 08/26/2020
Date Data Arrived at EDR: 09/08/2020
Date Made Active in Reports: 12/01/2020
Number of Days to Update: 84
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/08/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/21/2020
Date Data Arrived at EDR: 12/23/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 12
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 12/20/2020
Next Scheduled EDR Contact: 04/11/2021
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 08/06/2020
Date Data Arrived at EDR: 08/07/2020
Date Made Active in Reports: 10/26/2020
Number of Days to Update: 80

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 11/03/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Varies

OTHER DATABASE(S)

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

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 10/20/2020
Date Made Active in Reports: 11/02/2020
Number of Days to Update: 13

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/09/2020
Next Scheduled EDR Contact: 02/22/2021
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/09/2020
Next Scheduled EDR Contact: 01/18/2021
Data Release Frequency: Annually

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

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/30/2020
Next Scheduled EDR Contact: 02/08/2021
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/07/2020
Next Scheduled EDR Contact: 01/25/2021
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 12/10/2019
Number of Days to Update: 69

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/11/2020
Next Scheduled EDR Contact: 03/01/2021
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/03/2020
Next Scheduled EDR Contact: 03/22/2021
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

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

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

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

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

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

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

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

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

ENTERPRISE CASINO EXPANSION
3317 FORTY MILE RD
WHEATLAND, CA 95692

TARGET PROPERTY COORDINATES

Latitude (North):	39.050737 - 39° 3' 2.65''
Longitude (West):	121.512616 - 121° 30' 45.42''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	628709.5
UTM Y (Meters):	4323251.5
Elevation:	63 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5603334 OLIVEHURST, CA
Version Date:	2012
East Map:	5603368 WHEATLAND, CA
Version Date:	2012

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

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

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

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

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

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

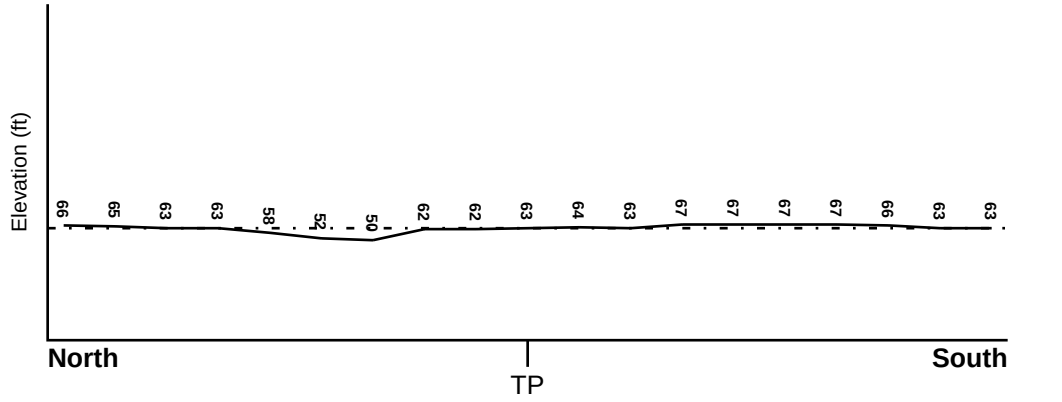
TOPOGRAPHIC INFORMATION

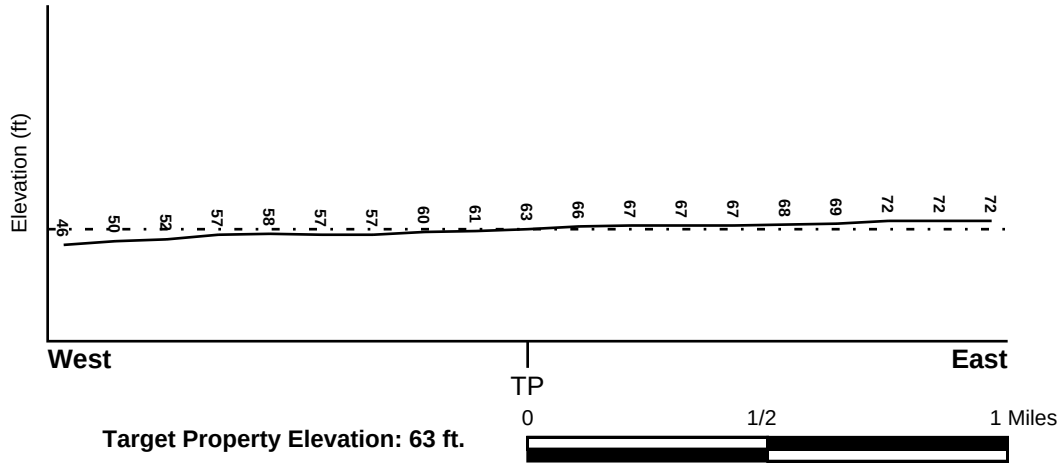
Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient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

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WNW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES





Target Property Elevation: 63 ft.

0 1/2 1 Miles

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

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

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

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

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06115C0420D	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06115C0410D	FEMA FIRM Flood data
06115C0440D	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

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

HYDROGEOLOGIC INFORMATION

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

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

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

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

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

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

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

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

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

ROCK STRATIGRAPHIC UNIT

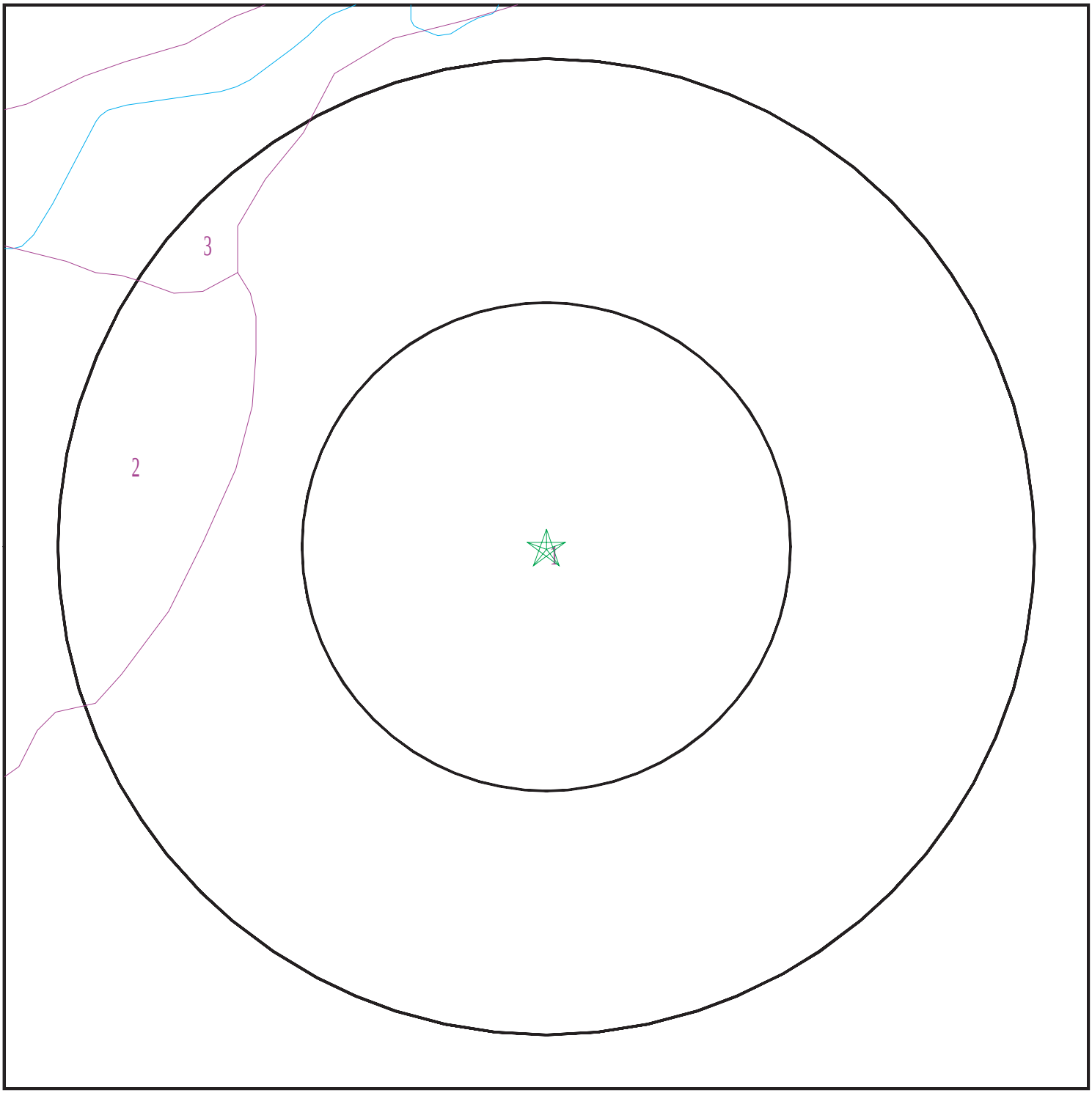
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

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

SSURGO SOIL MAP - 6324279.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Enterprise Casino Expansion	CLIENT:	ANALYTICAL ENVIRONMENTAL SERVICES
ADDRESS:	3317 Forty Mile Rd Wheatland CA 95692	CONTACT:	Kristen Miner
LAT/LONG:	39.050737 / 121.512616	INQUIRY #:	6324279.2s
		DATE:	January 08, 2021 8:41 am

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

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

Soil Map ID: 1

Soil Component Name: SAN JOAQUIN

Soil Surface Texture: loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 7.8 Min: 6.1
2	16 inches	25 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 7.8 Min: 6.1

Soil Map ID: 2

Soil Component Name: HOLLENBECK

Soil Surface Texture: silty clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	7 inches	42 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	42 inches	46 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 3

Soil Component Name: CONEJO

Soil Surface Texture: loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.1
2	5 inches	64 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.1

LOCAL / REGIONAL WATER AGENCY RECORDS

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

WELL SEARCH DISTANCE INFORMATION

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

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40000191320	1/8 - 1/4 Mile WSW
2	USGS40000191363	1/4 - 1/2 Mile NNW
3	USGS40000191278	1/4 - 1/2 Mile SSW
6	USGS40000191227	1/2 - 1 Mile SSW
8	USGS40000191438	1/2 - 1 Mile North
9	USGS40000191430	1/2 - 1 Mile NNW
10	USGS40000191431	1/2 - 1 Mile NNW
11	USGS40000191319	1/2 - 1 Mile East
12	USGS40000191349	1/2 - 1 Mile East

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

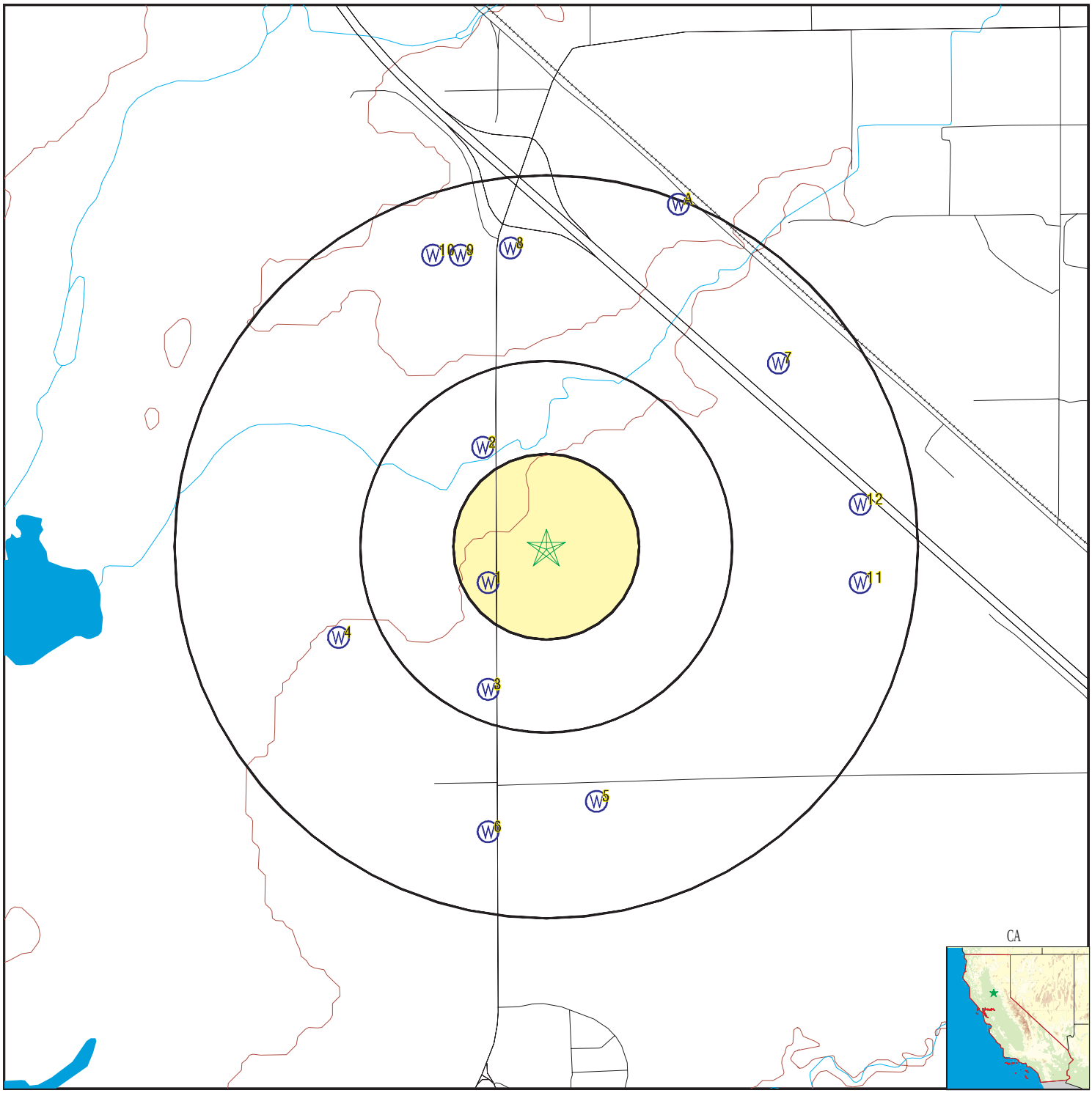
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

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

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
4	CADWR8000039970	1/2 - 1 Mile WSW
5	CADPR0000003150	1/2 - 1 Mile South
7	CADWR0000009143	1/2 - 1 Mile NE
A13	CADDW0000017518	1/2 - 1 Mile NNE
A14	CADDW0000009008	1/2 - 1 Mile NNE

PHYSICAL SETTING SOURCE MAP - 6324279.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Enterprise Casino Expansion	CLIENT:	ANALYTICAL ENVIRONMENTAL SERVICES
ADDRESS:	3317 Forty Mile Rd Wheatland CA 95692	CONTACT:	Kristen Miner
LAT/LONG:	39.050737 / 121.512616	INQUIRY #:	6324279.2s
		DATE:	January 08, 2021 8:41 am

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
WSW
1/8 - 1/4 Mile
Higher

FED USGS **USGS40000191320**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E22F004M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

2
NNW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000191363**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E22C001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

3
SSW
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000191278**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E22P001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

4
WSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR8000039970**

State Well #:	14N04E22M001M	Station ID:	39055
Well Name:	Not Reported	Well Use:	Unknown
Well Type:	Unknown	Well Depth:	0
Basin Name:	South Yuba	Well Completion Rpt #:	Not Reported

5
South
1/2 - 1 Mile
Higher

CA WELLS **CADPR0000003150**

Well ID:	94688	Well Type:	UNK
Source:	Department of Pesticide Regulation		
Other Name:	94688	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DPR&samp_date=&global_id=&assigned_name=94688&store_num=		
GeoTracker Data:	Not Reported		

6
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS40000191227**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E27C001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

7
NE
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000009143**

Well ID:	14N04E14N002M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	14N04E14N002M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=14N04E14N002M&store_num=		
GeoTracker Data:	Not Reported		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

8
North
1/2 - 1 Mile
Higher

FED USGS **USGS40000191438**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E15K001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19751103	Well Depth:	560
Well Depth Units:	ft	Well Hole Depth:	560
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1975-11-03
Feet below surface:	65.00	Feet to sea level:	Not Reported
Note:	Not Reported		

9
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000191430**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E15L002M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

10
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000191431**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E15L003M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

11
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000191319**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E23F002M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

12
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000191349**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	014N004E23F001M	Type:	Well
Description:	Not Reported	HUC:	18020106
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

A13
NNE
1/2 - 1 Mile
Lower

CA WELLS **CADDW0000017518**

Well ID:	5000507-001	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 1	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=5000507-001&store_num=		
GeoTracker Data:	Not Reported		

A14
NNE
1/2 - 1 Mile
Lower

CA WELLS **CADDW0000009008**

Well ID:	5800919-001	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL	GAMA PFAS Testing:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=5800919-001&store_num=

GeoTracker Data: Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
95692	2	1

Federal EPA Radon Zone for YUBA County: 2

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

Federal Area Radon Information for Zip Code: 95692

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	4.700 pCi/L	50%	50%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

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

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

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

GEOLOGIC INFORMATION

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

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

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

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

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

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

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

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

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

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

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

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

PHYSICAL SETTING SOURCE RECORDS SEARCHED

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

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

OTHER

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

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

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

STREET AND ADDRESS INFORMATION

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Enterprise Casino Expansion

3317 Forty Mile Rd

Wheatland, CA 95692

Inquiry Number: 6324279.8

January 08, 2021

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

01/08/21

Site Name:

Enterprise Casino Expansion
3317 Forty Mile Rd
Wheatland, CA 95692
EDR Inquiry # 6324279.8

Client Name:

ANALYTICAL ENVIRONMENTAL SERV
1801 7th Street
Sacramento, CA 95811
Contact: Kristen Miner

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	*Scale*	*Details*	*Source*
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1998	1"=500'	Acquisition Date: August 21, 1998	USGS/DOQQ
1984	1"=500'	Flight Date: June 29, 1984	USDA
1977	1"=500'	Flight Date: June 23, 1977	USGS
1973	1"=500'	Flight Date: July 01, 1973	USGS
1962	1"=500'	Flight Date: July 26, 1962	USGS
1952	1"=500'	Flight Date: June 26, 1952	USDA
1947	1"=500'	Flight Date: February 01, 1947	USGS
1937	1"=500'	Flight Date: October 06, 1937	USDA

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INQUIRY #: 6324279.8
YEAR: 2016
= 500'
N
EDR



INQUIRY #: 6324279.8

YEAR: 2012

= 500'

N

EDR



INQUIRY #: 6324279.8

YEAR: 2009

= 500'

N

EDR



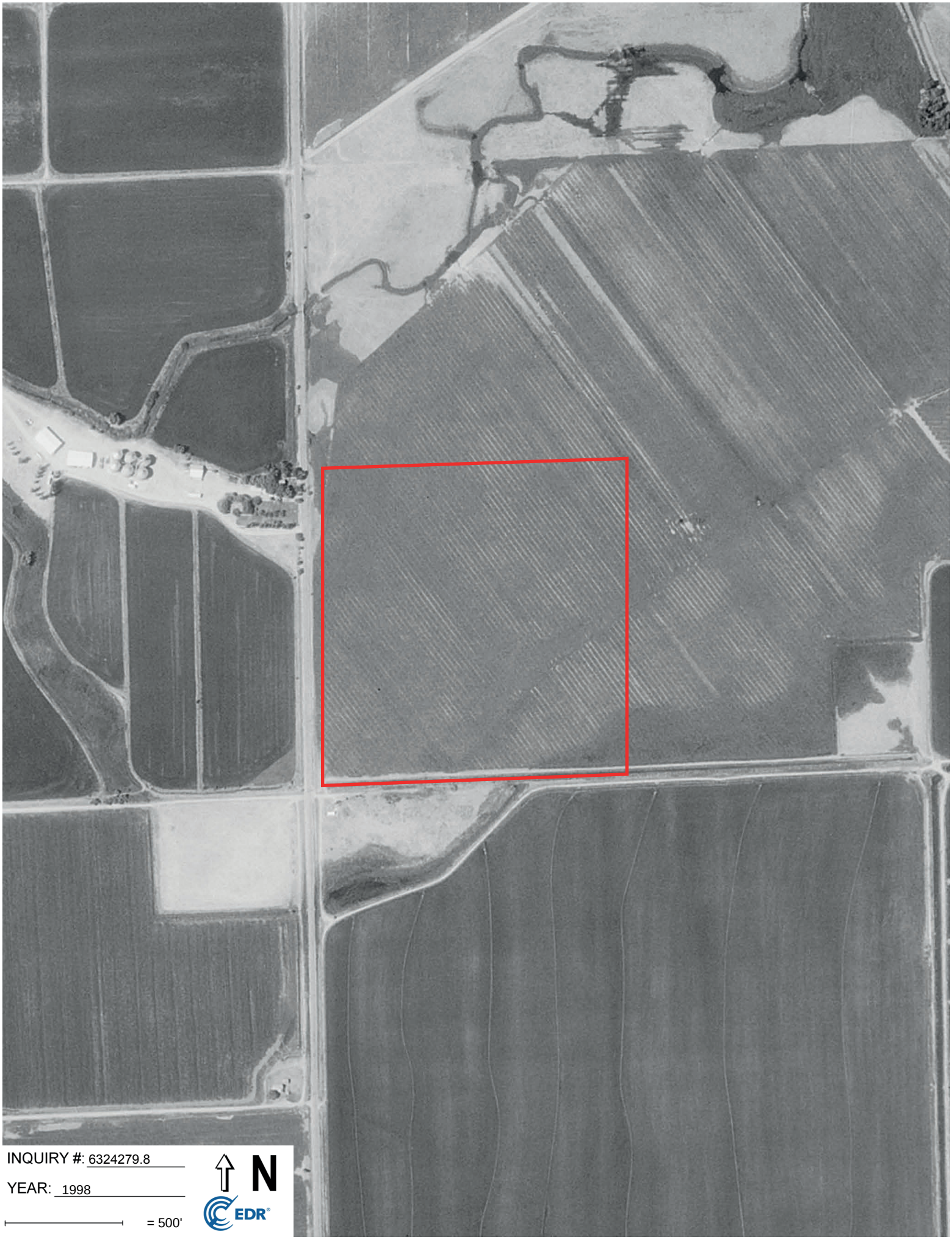
INQUIRY #: 6324279.8

YEAR: 2006

= 500'

N

EDR



INQUIRY #: 6324279.8

YEAR: 1998

= 500'

N

EDR



INQUIRY #: 6324279.8

YEAR: 1984

= 500'

N

EDR



INQUIRY #: 6324279.8

YEAR: 1977

= 500'

N

EDR



INQUIRY #: 6324279.8

YEAR: 1973

= 500'

N

EDR



INQUIRY #: 6324279.8

YEAR: 1962

= 500'

N

EDR



INQUIRY #: 6324279.8

YEAR: 1952

= 500'

N

EDR



INQUIRY #: 6324279.8

YEAR: 1947

= 500'

N

EDR



INQUIRY #: 6324279.8

YEAR: 1937

= 500'

N

EDR

Enterprise Casino Expansion

3317 Forty Mile Rd

Wheatland, CA 95692

Inquiry Number: 6324279.3

January 07, 2021

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Shelton, CT 06484
Toll Free: 800.352.0050
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Certified Sanborn® Map Report

01/07/21

Site Name:

Enterprise Casino Expansion
3317 Forty Mile Rd
Wheatland, CA 95692
EDR Inquiry # 6324279.3

Client Name:

ANALYTICAL ENVIRONMENTAL SERVI(
1801 7th Street
Sacramento, CA 95811
Contact: Kristen Miner

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The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # D401-408A-8334

PO # NA

Project Enterprise Casino Expansion

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This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: D401-408A-8334

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- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Enterprise Casino Expansion

3317 Forty Mile Rd

Wheatland, CA 95692

Inquiry Number: 6324279.4

January 07, 2021

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with QuadMatch™

6 Armstrong Road, 4th floor
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Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

01/07/21

Site Name:

Enterprise Casino Expansion
3317 Forty Mile Rd
Wheatland, CA 95692
EDR Inquiry # 6324279.4

Client Name:

ANALYTICAL ENVIRONMENTAL SERVI
1801 7th Street
Sacramento, CA 95811
Contact: Kristen Miner

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Search Results:

P.O.# NA

Project: Enterprise Casino Expansion

Coordinates:

Latitude:	39.050737 39° 3' 3" North
Longitude:	-121.512616 -121° 30' 45" West
UTM Zone:	Zone 10 North
UTM X Meters:	628706.17
UTM Y Meters:	4323459.56
Elevation:	63.00' above sea level

Maps Provided:

2012	1888
1973	
1952	
1949, 1952	
1910, 1911	
1895	
1894	
1891	

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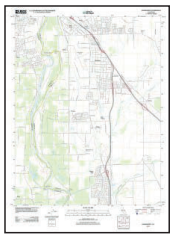
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Topo Sheet Key

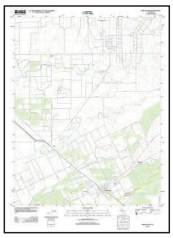
This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Olivehurst

7.5-minute, 24000



Wheatland

7.5-minute, 24000

1973 Source Sheets



Wheatland

7.5-minute, 24000
Aerial Photo Revised 1973



Olivehurst

7.5-minute, 24000
Aerial Photo Revised 1973

1952 Source Sheets



Olivehurst

7.5-minute, 24000
Aerial Photo Revised 1949

1949, 1952 Source Sheets



Wheatland

15-minute, 62500
Aerial Photo Revised 1947



Marysville

15-minute, 62500
Aerial Photo Revised 1949

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1910, 1911 Source Sheets



Wheatland

7.5-minute, 31680



Ostrom

7.5-minute, 31680

1895 Source Sheets



Smartsville

30-minute, 125000



Marysville

30-minute, 125000

1894 Source Sheets



Smartsville

30-minute, 125000



Marysville

30-minute, 125000

1891 Source Sheets



Marysville

30-minute, 125000



Smartsville

30-minute, 125000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1888 Source Sheets



Smartsville

30-minute, 125000

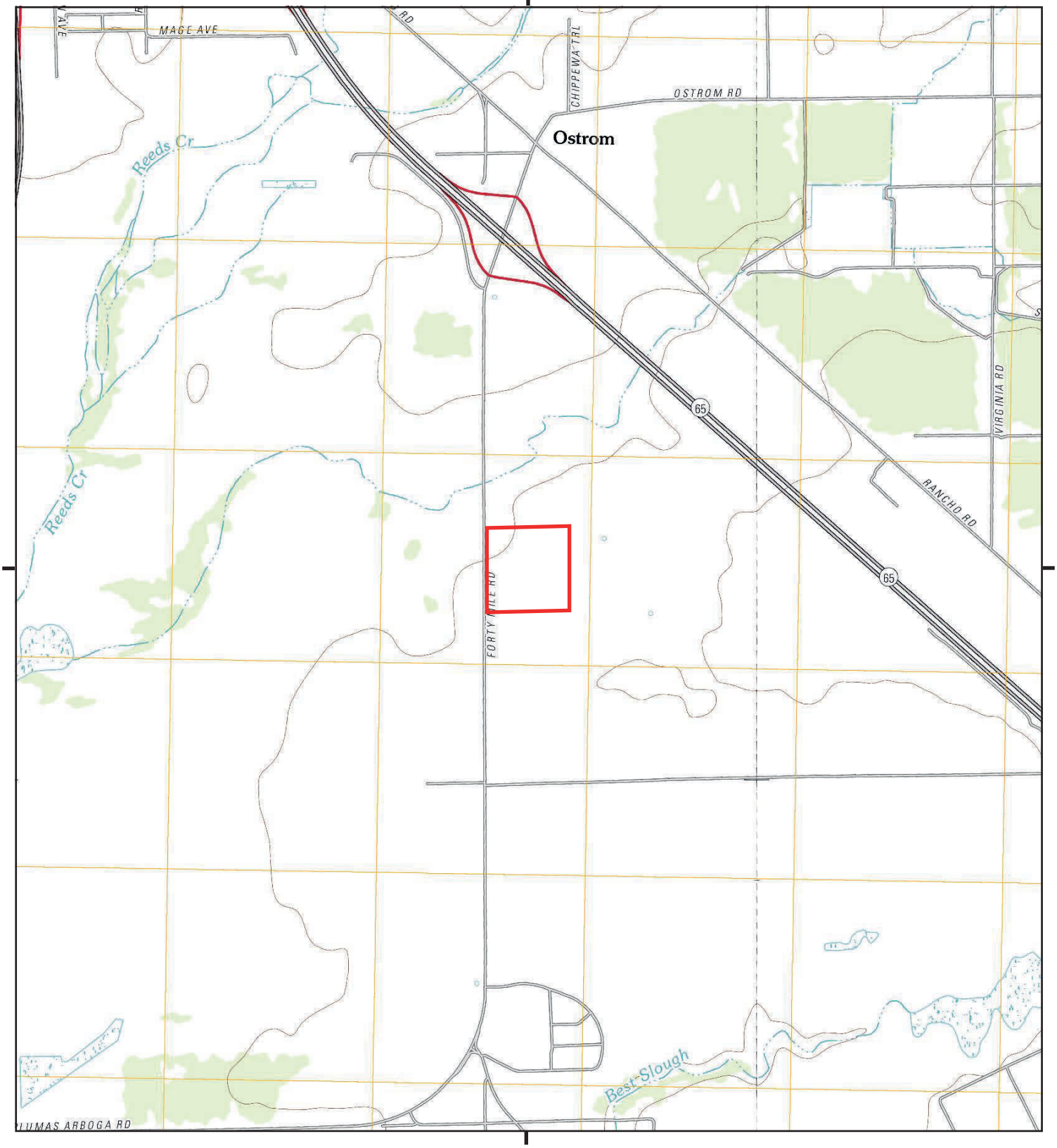


Marysville

30-minute, 125000

Historical Topo Map

2012



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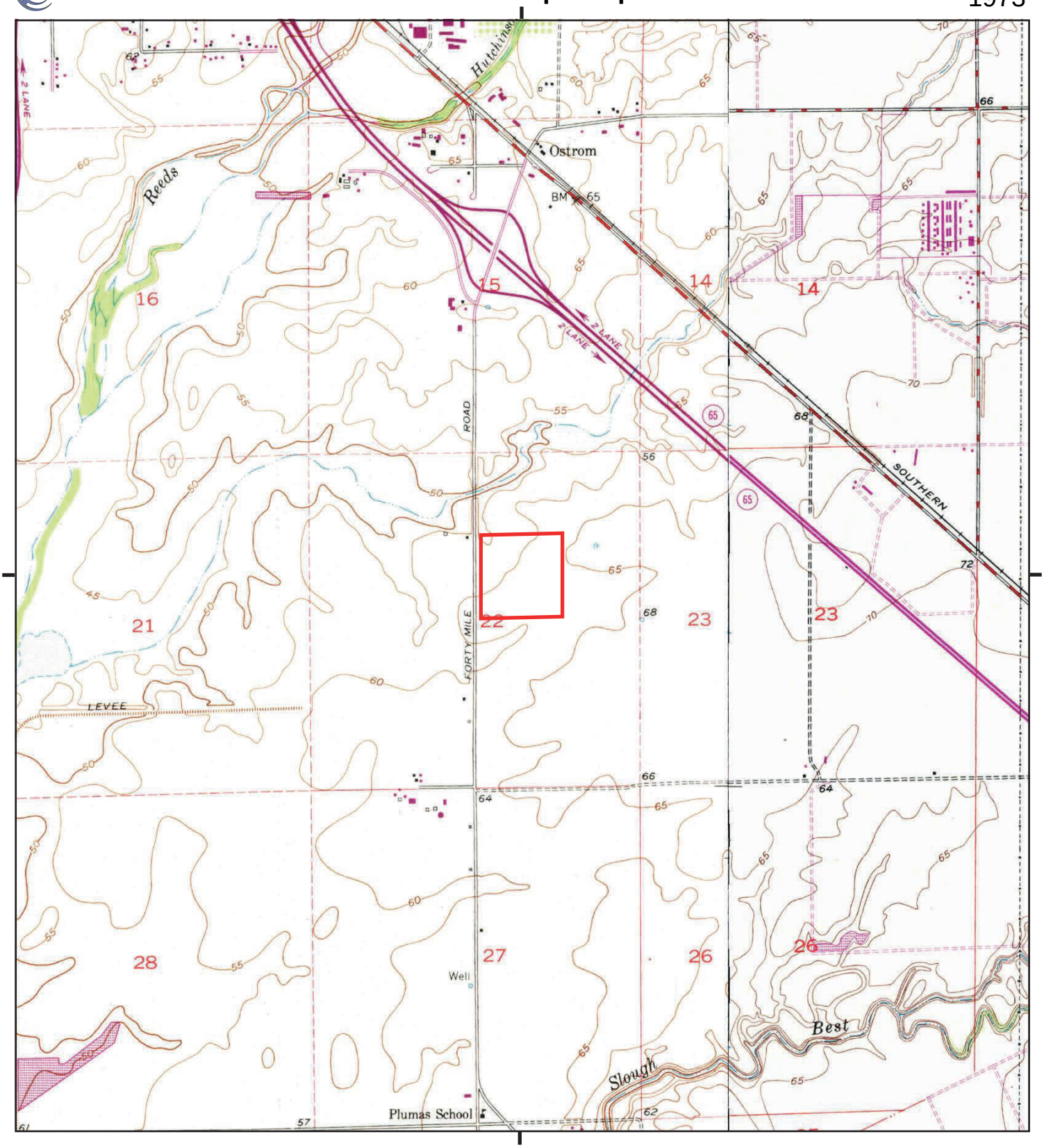
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Olivehurst, 2012, 7.5-minute
E, Wheatland, 2012, 7.5-minute

SITE NAME: Enterprise Casino Expansion
ADDRESS: 3317 Forty Mile Rd
Wheatland, CA 95692
CLIENT: ANALYTICAL ENVIRONMENTAL SERVI

N



This report includes information from the following map sheet(s).

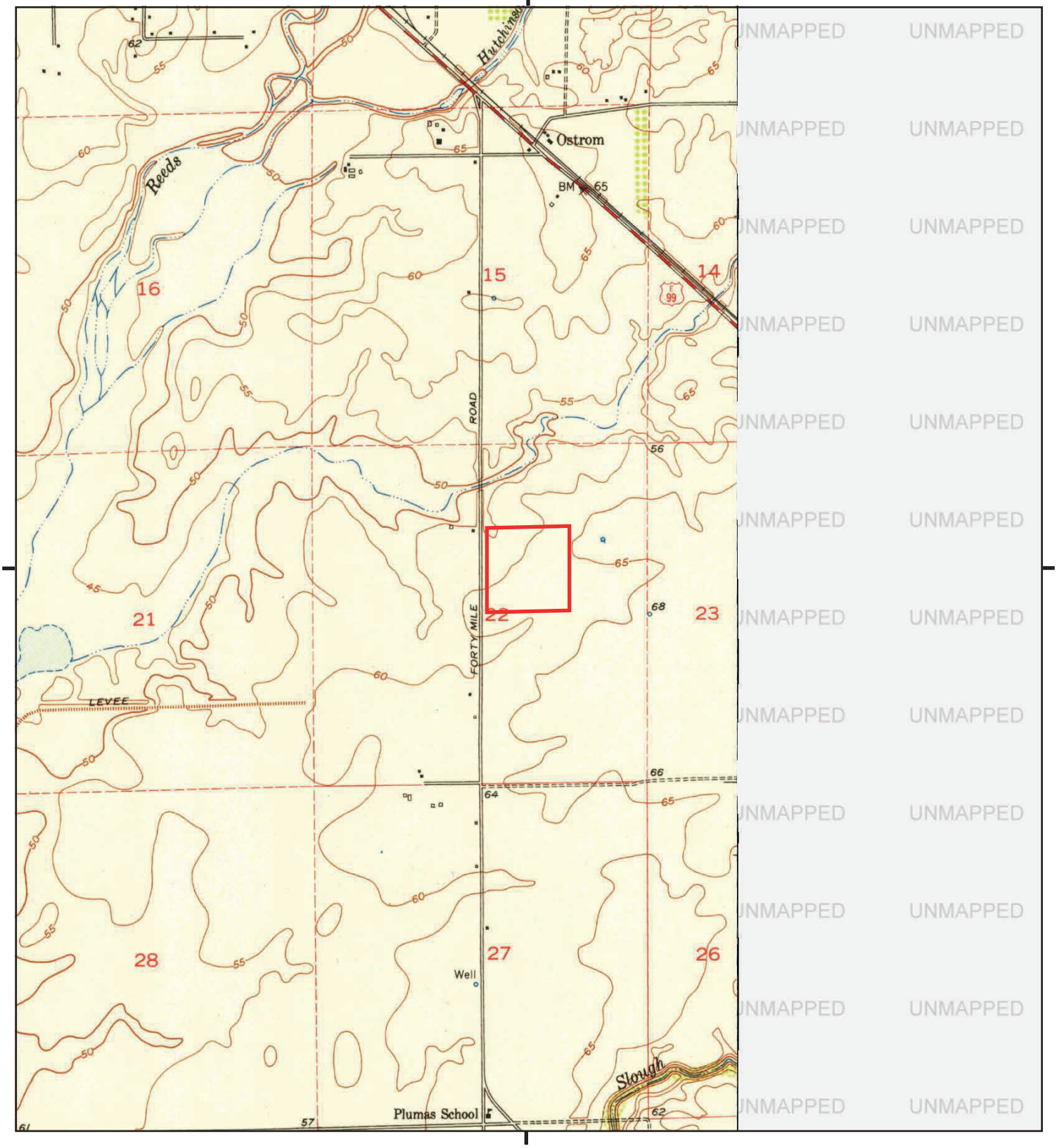
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NW N NE
W E
SW S SE

TP, Olivehurst, 1973, 7.5-minute
E, Wheatland, 1973, 7.5-minute

SITE NAME: Enterprise Casino Expansion
ADDRESS: 3317 Forty Mile Rd
Wheatland, CA 95692
CLIENT: ANALYTICAL ENVIRONMENTAL SERVI

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This report includes information from the following map sheet(s).

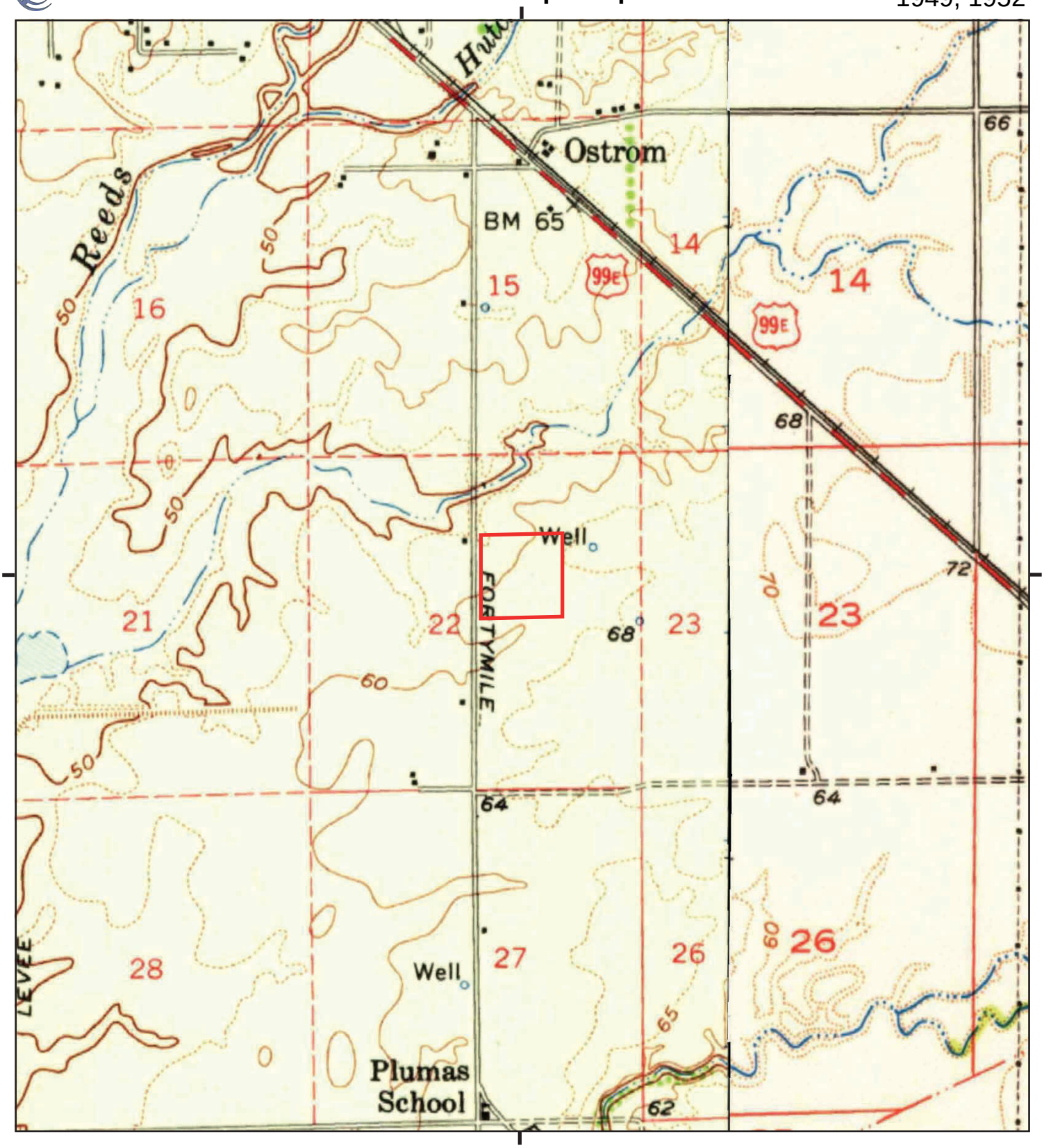
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Olivehurst, 1952, 7.5-minute

SITE NAME: Enterprise Casino Expansion
ADDRESS: 3317 Forty Mile Rd
Wheatland, CA 95692
CLIENT: ANALYTICAL ENVIRONMENTAL SERVI

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This report includes information from the following map sheet(s).

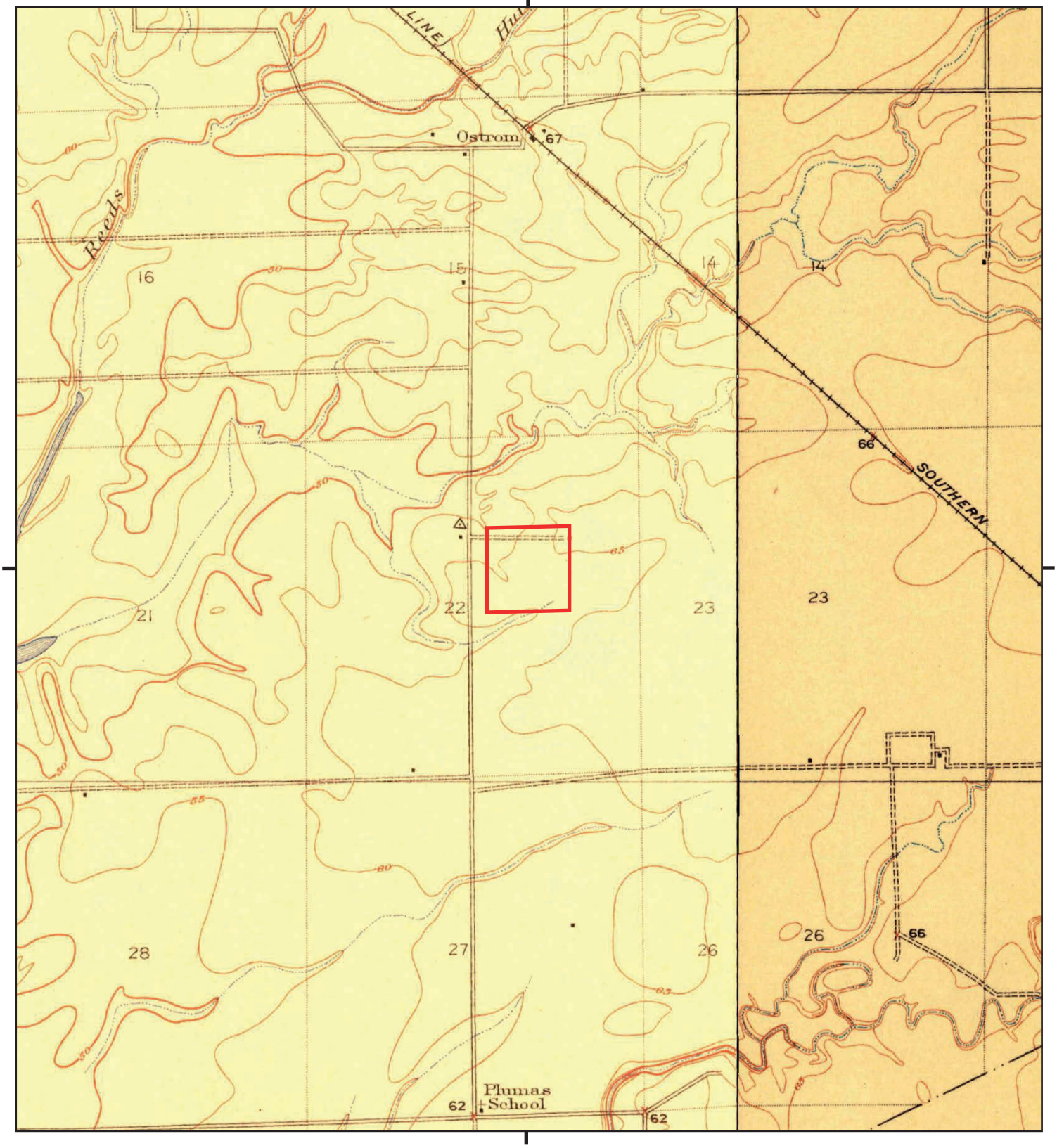
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Marysville, 1952, 15-minute
NE, Wheatland, 1949, 15-minute

SITE NAME: Enterprise Casino Expansion
ADDRESS: 3317 Forty Mile Rd
Wheatland, CA 95692
CLIENT: ANALYTICAL ENVIRONMENTAL SERVI

N



This report includes information from the following map sheet(s).

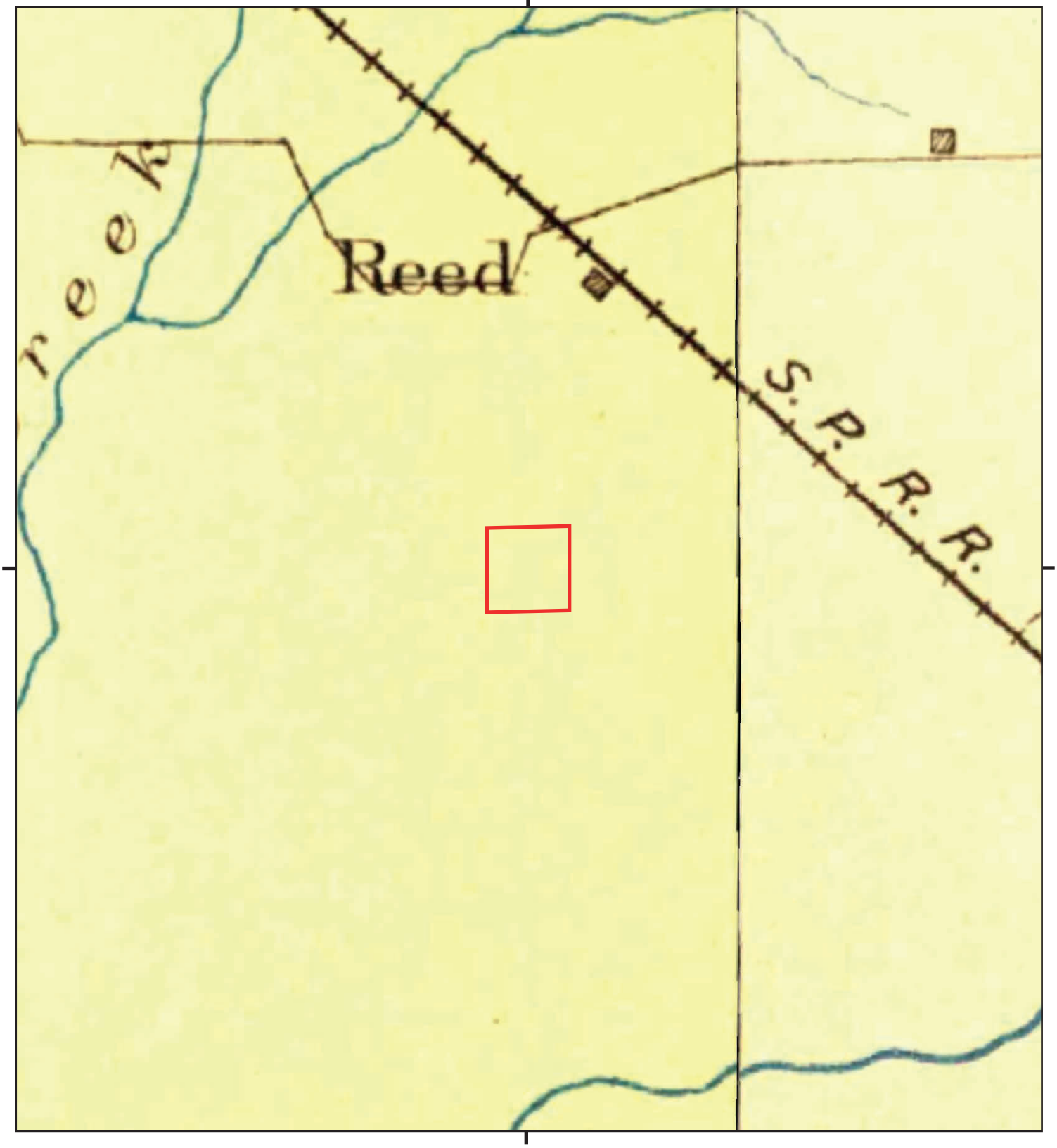
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Ostrom, 1911, 7.5-minute
E, Wheatland, 1910, 7.5-minute

SITE NAME: Enterprise Casino Expansion
ADDRESS: 3317 Forty Mile Rd
Wheatland, CA 95692
CLIENT: ANALYTICAL ENVIRONMENTAL SERVI

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This report includes information from the following map sheet(s).

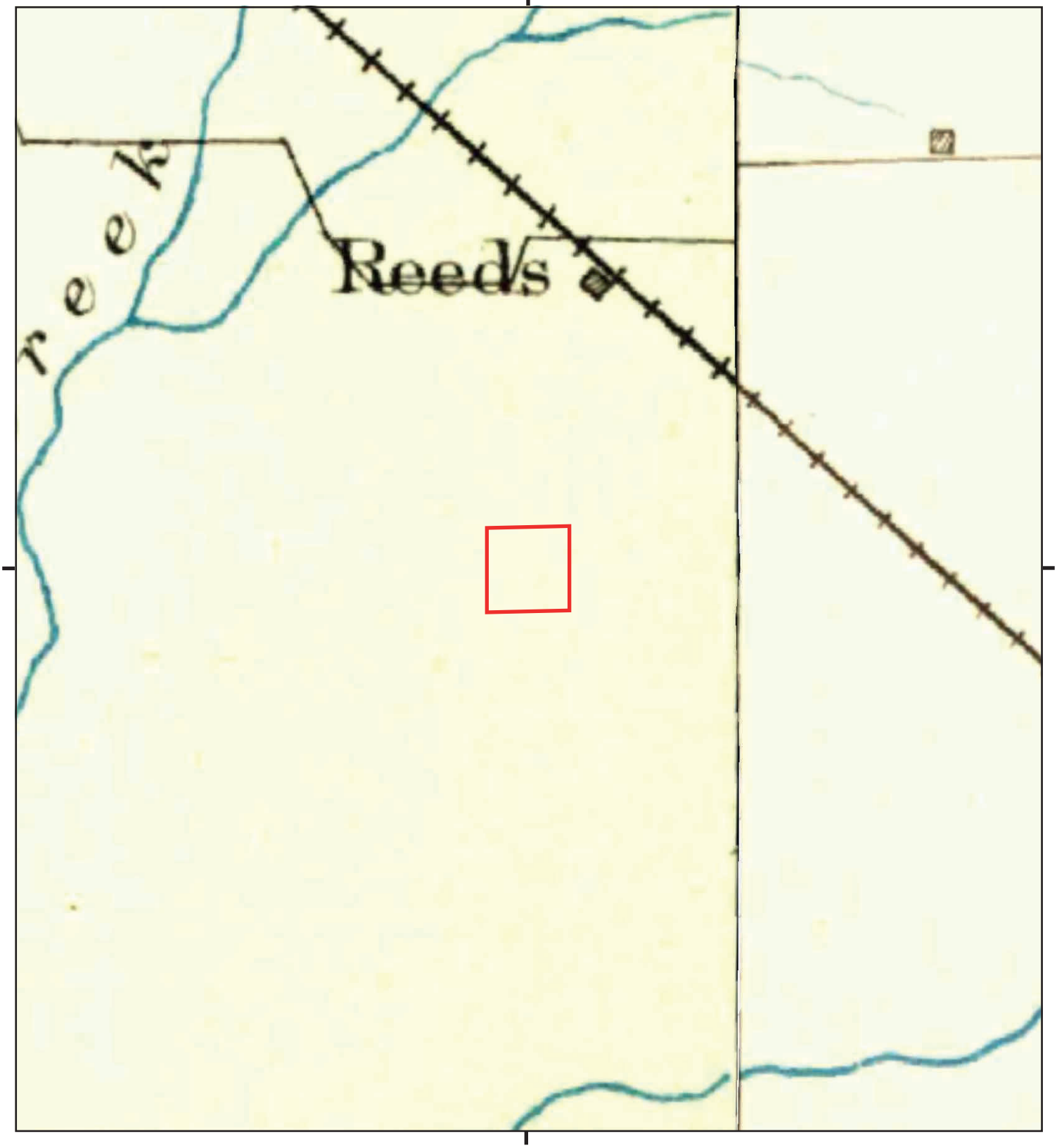
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NW N NE
W E
SW S SE

TP, Marysville, 1895, 30-minute
NE, Smartsville, 1895, 30-minute

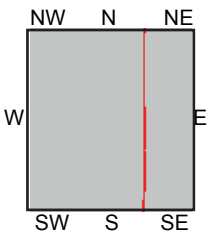
SITE NAME: Enterprise Casino Expansion
ADDRESS: 3317 Forty Mile Rd
Wheatland, CA 95692
CLIENT: ANALYTICAL ENVIRONMENTAL SERVI

N



This report includes information from the following map sheet(s).

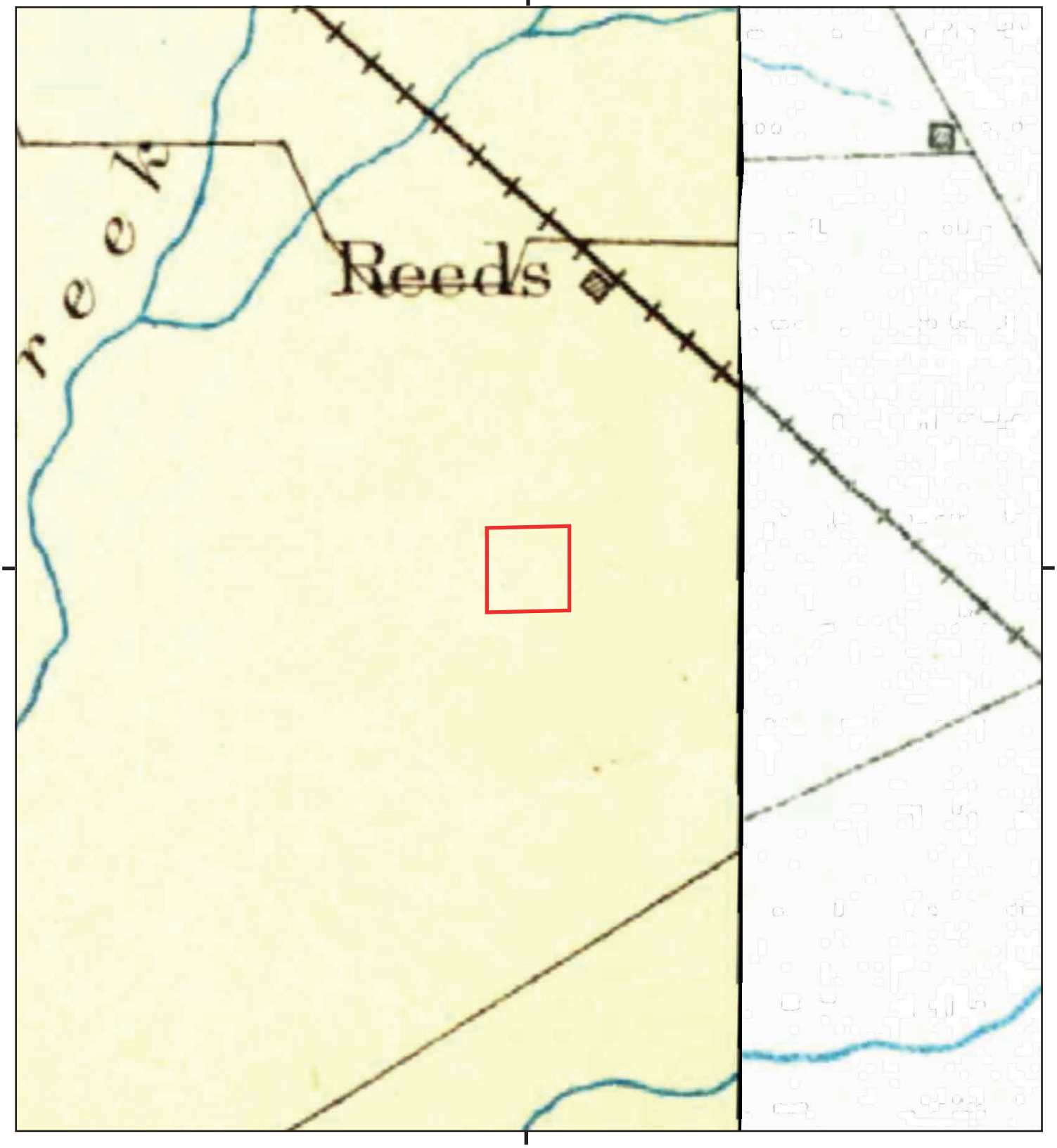
0 Miles 0.25 0.5 1 1.5



TP, Marysville, 1894, 30-minute
NE, Smartsville, 1894, 30-minute

SITE NAME: Enterprise Casino Expansion
ADDRESS: 3317 Forty Mile Rd
Wheatland, CA 95692
CLIENT: ANALYTICAL ENVIRONMENTAL SERVI

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This report includes information from the following map sheet(s).

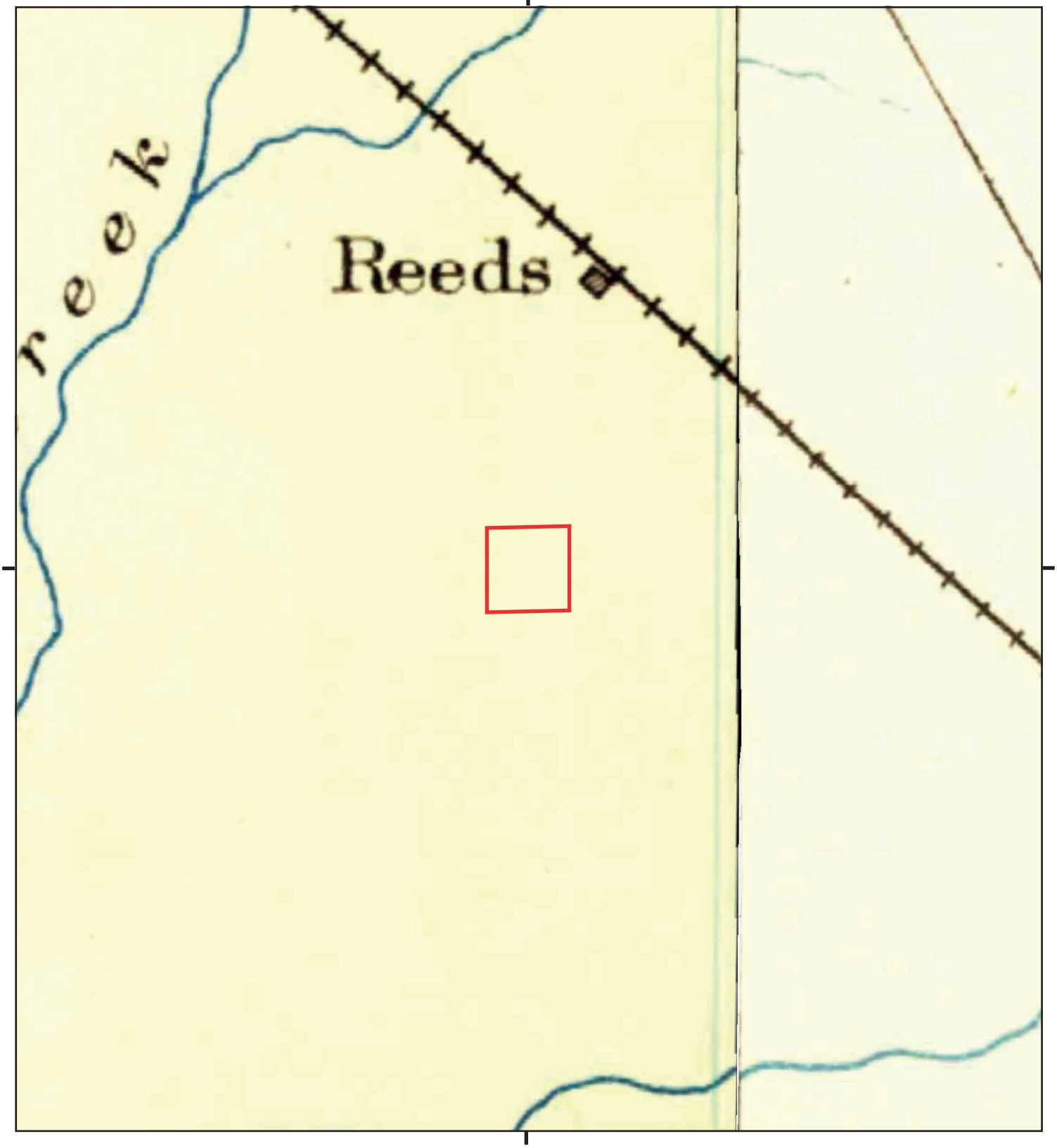
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Marysville, 1891, 30-minute
NE, Smartsville, 1891, 30-minute

SITE NAME: Enterprise Casino Expansion
ADDRESS: 3317 Forty Mile Rd
Wheatland, CA 95692
CLIENT: ANALYTICAL ENVIRONMENTAL SERVI

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Marysville, 1888, 30-minute
NE, Smartsville, 1888, 30-minute

SITE NAME: Enterprise Casino Expansion
ADDRESS: 3317 Forty Mile Rd
Wheatland, CA 95692
CLIENT: ANALYTICAL ENVIRONMENTAL SERVI

N

Enterprise Casino Expansion
3317 Forty Mile Rd
Wheatland, CA 95692

Inquiry Number: 6324279.5
January 11, 2021

The EDR-City Directory Image Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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SECTION

Executive Summary

Findings

City Directory Images

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with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2017	☑	☐	EDR Digital Archive
2014	☑	☐	EDR Digital Archive
2010	☑	☐	EDR Digital Archive
2005	☑	☐	EDR Digital Archive
2000	☑	☐	EDR Digital Archive
1995	☑	☐	EDR Digital Archive
1992	☑	☐	EDR Digital Archive
1986	☑	☐	Haines Criss-Cross Directory
1981	☐	☐	Haines Criss-Cross Directory
1979	☐	☐	Polk's City Directory
1974	☐	☐	Polk's City Directory
1969	☐	☐	Polk's City Directory
1964	☐	☐	Polk's City Directory
1960	☐	☐	Polk's City Directory

EXECUTIVE SUMMARY

Year	***Target Street***	***Cross Street***	***Source***

FINDINGS

TARGET PROPERTY STREET

3317 Forty Mile Rd
Wheatland, CA 95692

Year	*CD Image*	*Source*	
FORTY MILE RD			
2017	pg A1	EDR Digital Archive	
2014	pg A2	EDR Digital Archive	
2010	pg A3	EDR Digital Archive	
2005	pg A4	EDR Digital Archive	
2000	pg A5	EDR Digital Archive	
1995	pg A6	EDR Digital Archive	
1992	pg A7	EDR Digital Archive	
1986	pg A8	Haines Criss-Cross Directory	
1981	-	Haines Criss-Cross Directory	Street not listed in Source
1979	-	Polk's City Directory	Street not listed in Source
1974	-	Polk's City Directory	Street not listed in Source
1969	-	Polk's City Directory	Street not listed in Source
1964	-	Polk's City Directory	Street not listed in Source
1960	-	Polk's City Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

FORTY MILE RD 2017

1443 VARGAS, ANTONIO
1485 RODRIGUEZ, ENEDINO G
1545 HIGHLEY, FREDRICK N
2117 NORENE RANCHES INC SHOP
NORENE, GERALD M
2677 EMISACRAMENTO VALLEY AMPHITHEATRE
RADIO STAGE PHONE LINE
SLEEP TRAIN AMPHITHEATRE
3134 NAKAMURA, JASON
3364 CLAAR, MARK
3374 NIETO, LIDIA L
3718 TAYLOR, FRANCISCO

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

FORTY MILE RD 2014

1443	VARGAS, BRUNO G
1485	SANDOVAL, EVODIO S
1531	IRWIN, JACK L
1545	HIGHLEY, FREDRICK N
2117	NORENE RANCHES INC SHOP
	NORENE, GERALD M
2233	WILSON, JOSH D
2677	SLEEP TRAIN AMPHITHEATRE
3002	OCCUPANT UNKNOWN,
3134	NAKAMURA, JASON
3364	CLAAR, MARK
3374	GUERRERO, JOSE G
3718	TAYLOR, FRANCISCO

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

FORTY MILE RD 2010

1443	VARGAS, BRUNO G
1485	SANDOVAL, EVODIO S
1531	IRWIN, JACK L
1545	HIGHLEY, FREDRICK N
2117	NORENE RANCHES INC
	NORENE, GERALD M
2233	CAIN, IRMA
2677	EMI SCARAMENTO VALLEY
	RADIO STAGE PHONE LINE
	SLEEP TRAIN AMPHITHEATRE
2896	OCCUPANT UNKNOWN,
3002	HOFMAN, CARLIN L
3134	NAKAMURA, JASON
3364	CLAAR, MARK
3374	NIETO, RAMON C
3718	TAYLOR, FRANCISCO

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

FORTY MILE RD 2005

1443	VARGAS, BRUNO G
1485	HEREDIA, LINDA R
1531	IRWIN, JACK L
1545	HIGHLEY, RICK
2117	NORENE, GERALD M
2233	CAIN, IRMA
2677	ARAMARK SPORTS & ENTERTAINMENT SERVI
	CLEAR CHANNEL ENTERTAINMENT
	SLEEP TRAIN AMPHITHEATRE
2793	OCCUPANT UNKNOWN,
2896	OCCUPANT UNKNOWN,
3002	HOFMAN, CARLIN L
3134	NAKAMURA, JASON
3364	PEREZ, EMILIO V
3374	NIETO, RAMON
3718	TAYLOR, FRANCISCO

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

FORTY MILE RD 2000

1443	VARGAS, BRUNO G
1485	RODRIGUEZ, G M
	SANDOVAL, EVODIO
2117	NORENE, GERALD M
2793	YUBA COUNTY MOTORPLEX LLC
3002	HOFMAN, EMMA A
3718	TAYLOR, FRANCIS

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

FORTY MILE RD 1995

1319 JIMENEZ, MAURICI
1485 RODRIGUEZ, ENEDINO
SANDOVAL, EVODIO
1531 MARKS, CHUCK
2117 NORENE, GERALD M
3002 HOFMAN, FRANK L
3374 KENNEY, BILL
3718 TAYLOR, FRANCIS

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

FORTY MILE RD 1992

1319 JIMENEZ, M
1531 MARKS, CHUCK
2117 NORENE, GERALD M
3002 HOFMAN FRANK L
HOFMAN, FRANK L

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

FORTY MILE RD 1986

FORTY MILE RD 95901
MARYSVILLE

2896	CLARK DEMA	742-1145
3002	HOFMAN FRANK L	743-9131
	HOPMAN FRANK L	743-9108
3374	SHUSTER CHARLES	743-1433
	SHUSTER& ENTERPRIBE	743-9759
★	2 BUS 3 RES	

FORTY MILE RD 95692
WHEATLAND

1531	MARKS CHUCK	633-4898
1545	HIGHLEY LINDA	638-4413
	HIGHLEY RICK	633-4413
2117	NORENE LAURIE	633-2181
★	0 BUS 4 RES	

APPENDIX I

ENVIRONMENTAL NOISE ASSESSMENT

Session Report

2/24/2021

Information Panel

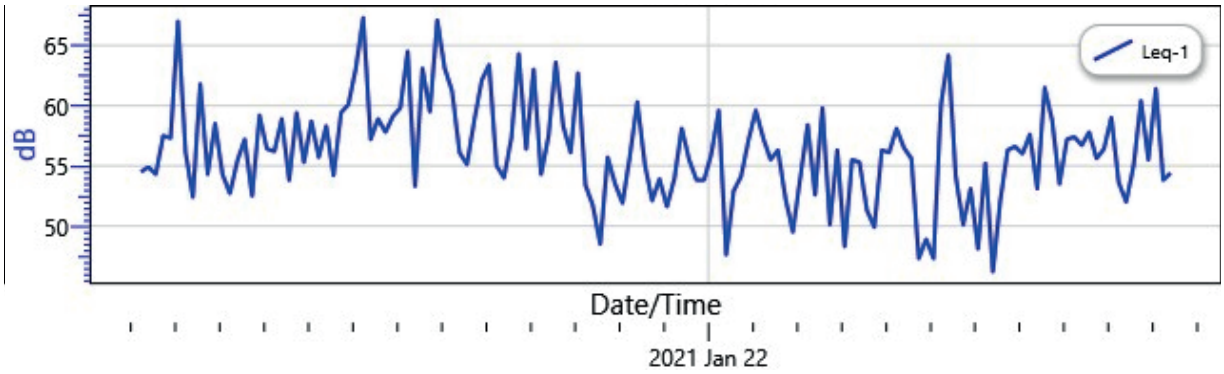
Name	Site A - Casino
Start Time	1/21/2021 11:03:59 AM
Stop Time	1/22/2021 10:26:17 AM
Device Name	BGH060008
Model Type	SoundPro DL
Run Time	23:22:18

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	58.3 dB	CNEL	1	63.4 dB
LDN	1	63 dB	SEL	1	107.5 dB
Weighting	1	A	Response	1	FAST
Bandwidth	1	OFF	Criterion Time	1	8 hrs.

Logged Data Chart

Site A - Casino: Logged Data Chart



Logged Data Table

Date/Time	Leq-1
1/21/2021 12:01:59 PM	60.8
12:59:59 PM	57.6
1:57:59 PM	56.3
2:55:59 PM	56.8
3:53:59 PM	58.3

Date/Time	Leq-1
4:51:59 PM	62.3
5:49:59 PM	61.2
6:47:59 PM	62.2
7:45:59 PM	61.1
8:43:59 PM	60.2
9:41:59 PM	56.8
10:39:59 PM	56.3
11:37:59 PM	55
1/22/2021 12:35:59 AM	55.3
1:33:59 AM	57.1
2:31:59 AM	55.7
3:29:59 AM	54.4
4:27:59 AM	56
5:25:59 AM	58.5
6:23:59 AM	51.6
7:21:59 AM	55.8
8:19:59 AM	58.3
9:17:59 AM	56.4
10:15:59 AM	57.8

Session Report

2/24/2021

Information Panel

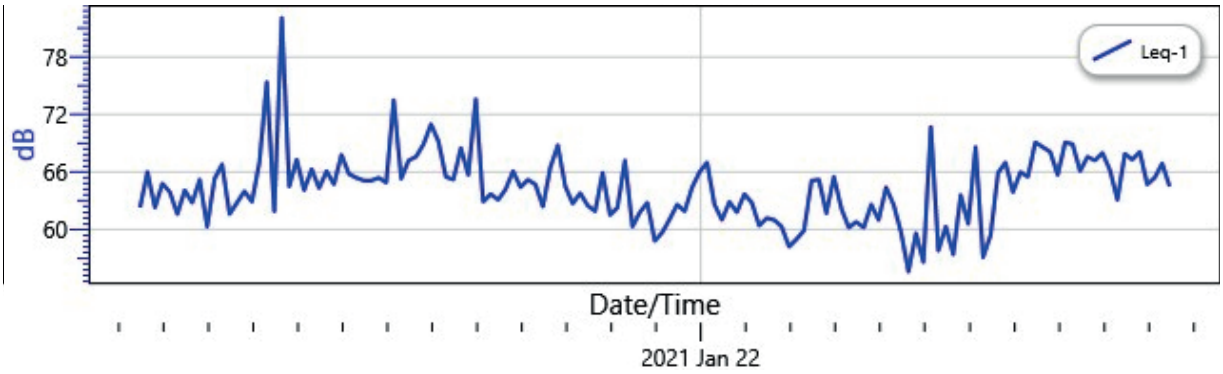
Name	Site B - Barn
Start Time	1/21/2021 11:18:32 AM
Stop Time	1/22/2021 10:32:21 AM
Device Name	BGH060009
Model Type	SoundPro DL
Run Time	23:13:49

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	66.8 dB	CNEL	1	71 dB
LDN	1	70.8 dB	SEL	1	116 dB
Weighting	1	A	Response	1	SLOW
Bandwidth	1	OFF	Criterion Time	1	8 hrs.

Logged Data Chart

Site B - Barn: Logged Data Chart



Logged Data Table

Date/Time	Leq-1
1/21/2021 12:16:32 PM	63.8
1:14:32 PM	64.1
2:12:32 PM	64.3
3:10:32 PM	75.5
4:08:32 PM	66.1

Date/Time	Leq-1
5:06:32 PM	68.2
6:04:32 PM	68.7
7:02:32 PM	68.7
8:00:32 PM	64.3
8:58:32 PM	65.8
9:56:32 PM	63.5
10:54:32 PM	63.1
11:52:32 PM	62.6
1/22/2021 12:50:32 AM	63.7
1:48:32 AM	61.8
2:46:32 AM	62.1
3:44:32 AM	62.3
4:42:32 AM	61.9
5:40:32 AM	64.2
6:38:32 AM	64.3
7:36:32 AM	66.6
8:34:32 AM	68.1
9:32:32 AM	66.9
10:30:32 AM	66.3

Session Report

2/24/2021

Information Panel

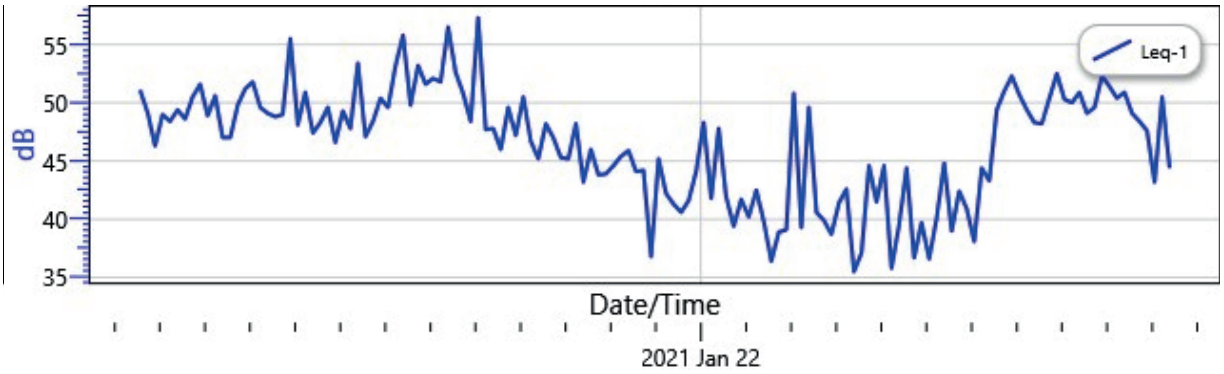
Name	Site C - School
Start Time	1/21/2021 11:23:49 AM
Stop Time	1/22/2021 10:32:58 AM
Device Name	BGH060007
Model Type	SoundPro DL
Run Time	23:09:09

Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	48.7 dB	CNEL	1	52.6 dB
LDN	1	52.3 dB	SEL	1	97.9 dB
Weighting	1	A	Response	1	FAST
Bandwidth	1	OFF	Criterion Time	1	8 hrs.

Logged Data Chart

Site C - School: Logged Data Chart



Logged Data Table

Date/Time	Leq-1
1/21/2021 12:20:49 PM	49.2
1:17:49 PM	49.8
2:14:49 PM	49.9
3:11:49 PM	51.3
4:08:49 PM	48.4

Date/Time	Leq-1
5:05:49 PM	50.1
6:02:49 PM	53.1
6:59:49 PM	54.2
7:56:49 PM	47.7
8:53:49 PM	47.6
9:50:49 PM	45.4
10:47:49 PM	44.7
11:44:49 PM	42.1
1/22/2021 12:41:49 AM	45.3
1:38:49 AM	40.5
2:35:49 AM	46.3
3:32:49 AM	40
4:29:49 AM	41.9
5:26:49 AM	41.8
6:23:49 AM	42
7:20:49 AM	50.5
8:17:49 AM	50.4
9:14:49 AM	50.8
10:11:49 AM	48.9